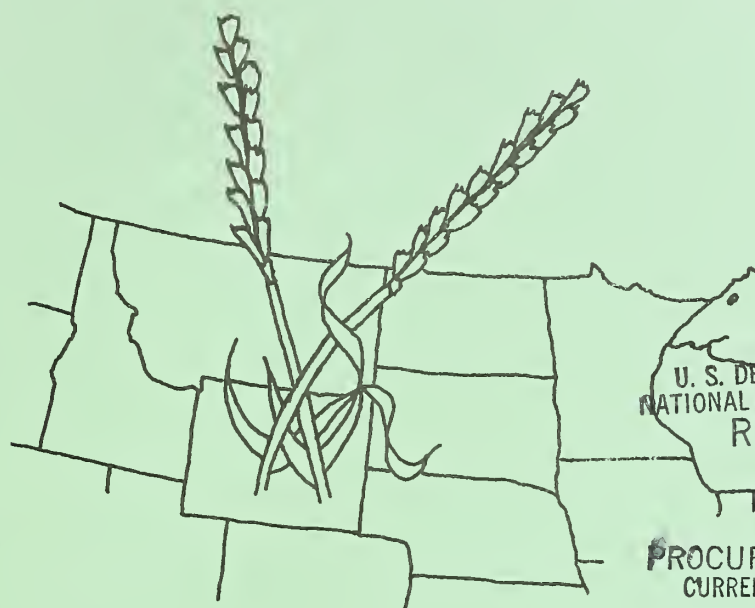


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HARD RED SPRING WHEAT



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QUALITY REPORT

Physical, Chemical, Milling, and Baking Characteristics

1971 CROP

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
CROPS RESEARCH DIVISION
PLANT SCIENCE RESEARCH DIVISION

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
PLANT SCIENCE RESEARCH DIVISION
in cooperation with
STATE AGRICULTURAL EXPERIMENT STATIONS

REPORT OF PHYSICAL, CHEMICAL, MILLING, AND BAKING EXPERIMENTS

WITH HARD RED SPRING WHEAT

1971 CROP^{1/}

by

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^{1/} This is a progress report of cooperative investigations containing some results that have not been sufficiently confirmed to justify general release; interpretations may be modified with additional experimentation. Confirmed results will be published through established channels. The report is primarily a tool for use of cooperators and their official staffs and to those persons having direct and special interest in the development of agricultural research programs.

This report was compiled in the Plant Science Research Division, Agricultural Research Service, U.S. Department of Agriculture. Special acknowledgment is made to the North Dakota State University for their facilities and services provided in support of these studies. The report is not intended for publication and should not be referred to in literature citations nor quoted in publicity or advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

Hard Red Spring and Durum Wheat Quality Laboratory
Fargo, North Dakota
PSR-18-72

COOPERATING AGENCIES, STATIONS, AND PERSONNEL

The cooperating agencies and stations conducting the varietal plot and nursery experiments from which the 1971 spring wheat samples were received are listed below:

California Agricultural Experiment Station:

Davis and El Centro

Colorado Agricultural Experiment Station:

Fort Collins

Idaho Agricultural Experiment Station:

Tetonia

Minnesota Agricultural Experiment Station:

Crookston, Morris, and St. Paul

Montana Agricultural Experiment Station:

Bozeman, Conrad, Havre, and Sidney

North Dakota Agricultural Experiment Station:

Carrington, Dickinson, Fargo, Langdon,
and Minot

South Dakota Agricultural Experiment Station:

Highmore and Watertown

Washington Agricultural Experiment Station:

Lind

Wisconsin Agricultural Experiment Station:

Madison

Wyoming Agricultural Experiment Station:

Sheridan

A complete list of all cooperating agencies, stations, and personnel for the year will be found in the report by Dr. R. E. Heiner, "Results on Spring Wheat Varieties Grown in Cooperative Plot and Nursery Experiments in the Spring Wheat Region in 1971," PSR-3-72.

INTRODUCTION

Samples of standard varieties and many of the new strains of hard red spring wheat grown in cooperative experiments in the spring wheat region of the United States^{2/} have been milled each year by the USDA. The flours were assayed chemically and physically and baked into bread to determine the quality characteristics. The purpose of this report is to make available to the cooperators, quality data on the standard varieties and new strains of hard red spring wheat from the 1971 crop.

The same general format and techniques were used in evaluating the wheats as outlined in quality reports for previous years. The data contained in this report are comparable to data in past reports and, where applicable, average results and also the average results of the 1970 crop are compared.

The format adopted in 1962 for the evaluation of a sample utilized three categories: kernel characteristics, milling performance, and baking evaluation. The basic difference between this report and previous reports is the manner in which the ratings were obtained. Previous to last year, an individual judgment was used to ascertain the rating for each sample. A brief description of the new technique is given on Pages 9 and 10 of this report. It is hoped that with the use of this technique, a more objective evaluation is obtained. Also, it will be possible to quickly deduce the various characteristics of the selection and any outstanding features or deficiencies which are apparent. No specific comments are made regarding the mixogram patterns, since reference mixograms for each of the general types are presented at the end of the report.

Generally, the 1971 crop was grown under very favorable conditions with plenty of rainfall. The average extraction was higher than the 1970 crop and the flour mineral content at 65% extraction was lower, as was the wheat mineral content. The protein content was approximately 1% lower than last year.

The baking performance was slightly better than last year. Lower absorption was experienced. Even though the protein content of wheat was lower, the loaf volume was about the same. The doughs were slightly stronger than last year which was unexpected because of the lower protein content.

The oxidation requirements for the 1971 crop were somewhat erratic, but requiring somewhat less bromate than last year.

^{2/} Heiner, R. E. "Results on Spring Wheat Varieties Grown in Cooperative Plot and Nursery Experiments in the Spring Wheat Region in 1971." Plant Science Research Division, Agricultural Research Service, USDA, PSR-3-72.

SOURCE OF THE SAMPLES

Tests were performed on 585 samples received from field plots, uniform regional nurseries, and sawfly yield nurseries of the 1971 crop. These samples originated in ten states: California, Colorado, Idaho, Minnesota, Montana, North Dakota, South Dakota, Washington, Wisconsin, and Wyoming. Twenty-one stations from these states were represented, namely, Davis and El Centro in California; Fort Collins in Colorado; Tetonia in Idaho; Crookston, Morris, and St. Paul in Minnesota; Bozeman, Conrad, Havre, and Sidney in Montana; Carrington, Dickinson, Fargo, Langdon, and Minot in North Dakota; Highmore and Watertown in South Dakota; Lind in Washington; Madison in Wisconsin; and Sheridan in Wyoming.

Due to apparent differences in the characteristics of the wheats and protein contents, no samples were blended this year.

On page 5 are listed the spring wheats which were included in the 1971 Uniform Regional Nursery trials. The variety or cross, the station which developed the variety, the state selection number, and the C.I. number are given.

In Table 18 are given the average data for the Uniform Regional Nursery samples. The data for kernel characteristics and milling performance are arithmetical averages of the individual samples. However, the mixograms and baking data were obtained from blends of equal proportions of the individual flours for each sample from the 17 stations.

In Table 23 are given the average data for the Sawfly Yield Nursery samples obtained from the arithmetical averages of the individual samples.

ENTRIES FOR THE 1971 UNIFORM REGIONAL HARD RED SPRING WHEAT NURSERY

Entry No.	Cross or Variety	C.I. or Sel. No.	Year Entered	Source
1	MARQUIS	3461	1929	Canada
2	JUSTIN	13462	1959	North Dakota
3	SELKIRK	13100	1953	Canada
4	CHRIS	13751	1960	USDA-MN
5	WALDRON	13958	1964	North Dakota
6	NEEPAWA	RL4200	1967	Canada
7	ND140/ND363	ND491	1970	North Dakota
8	do	ND506	1971	North Dakota
9	WALDRON/POLK	ND501	1971	North Dakota
10	ERA	13986**	1968	USDA-MN
11	FLETCHER	13985**	1968	USDA-MN
12	BONANZA	14077**	1970	DeKalb Ag. Res.
13	WORLD SEEDS 1809**		1971	World Seeds, Inc.
14	BOUNTY 208**		1971	Cargill, Inc.
15	JT*2/4/ND259/CLY//CLY/ ND122/3/JT/5/ND363	ND499**	1970	North Dakota
16	do	ND497**	1971	North Dakota
17	PJ60/3/HRY*7/P54//K184/ 7*WIS250/4/K184/4*WIS250	WIS271**	1967	USDA-WIS
18	do	H678-1-6-9**	1969	USDA-WIS
19	LARK	WORLD SEEDS 1651-E**	1971	World Seeds, Inc.
20	NK70Y14**		1971	Northrup King

** Semidwarf

METHODS

The terminology and methods used are briefly described below:

Test Weight Per Bushel - The weight per Winchester bushel of cleaned, dry, scoured wheat. To determine the dockage-free test weight on a comparable sample, approximately one pound per bushel should be subtracted from the value given.

1000 Kernel Weight - The 1000 kernel weight was determined by counting the number of kernels in a 10 gram sample of cleaned, picked wheat with an ASCO Seed Counter^{4/}.

Kernel Size - The percentages of the size of the kernels (large, medium, and small) were determined on a wheat sizer as described by Shuey^{5/}.

The sieves of the sizer were clothed as follows:

Top Sieve	-	Tyler # 7 with 2.92 mm. opening
Middle Sieve	-	Tyler # 9 with 2.24 mm. opening
Bottom Sieve	-	Tyler #12 with 1.65 mm. opening

Potential Yield - The potential yield is not shown on the computer tables but it can be determined by multiplying the percentages of the overs of each sieve #7, #9, and #12, by the value of 78%, 73%, and 68%, respectively. The accumulation percentage would be the potential yield.

Milling - The samples were cleaned by passing the wheat over an Emerson Kicker and Dockage Tester and through a modified Forster Scourer Model 6. The clean dry samples were pre-tempered to 12% moisture for at least 72 hours; then tempered to 16% moisture and allowed to stand overnight prior to milling.

All samples except the field plot samples were milled on a Brabender Quadrumat Junior Mill. The mill was equipped with a #18 wire on the drum sieve. The throughs of the #18 wire were rebolted on a Strand Sifter equipped with a #60 Tyler sieve. The sample was sifted for 1 minute. The throughs of the #60 wire were classified as flour and this was the material tested. The overs of the #18 wire were classified as bran and the throughs of the #18 wire and overs of the #60 Tyler sieve as crude shorts.

The field plot nursery samples were milled on a Buhler Continuous Experimental Mill. This mill has been slightly modified to give results

^{4/} Mention of a trademark name or a proprietary product does not constitute a guarantee or warranty of the product by the U.S. Department of Agriculture, and does not imply its approval to the exclusion of other products that may also be suitable.

^{5/} Shuey, William C. A Wheat Sizing Technique for Predicting Flour Milling Yield. Cereal Science Today 5: 71-72,75 (1960).

more comparable to commercial milling. The break scalping sieves were clothed with #54 stainless steel wire, the reduction scalping sieves with #58, #66, and #105 stainless steel wire for the first, second, and third reduction, respectively. All of the flour sieves were clothed with #135 stainless steel wire.

All six flour streams were combined to give the patent flour. The extraction of a good milling wheat using this flow is approximately 68%. This is comparable to a commercial "long patent" extraction flour. At this flour extraction of the wheat, the changes in flour ash are most sensitive to changes in percent extraction.

Protein Content - The protein was calculated by multiplying the factor of 5.7 times the percent nitrogen as determined by the standard Kjeldahl procedure.

Mineral Content or Ash Content - This was determined by measuring the residue of the minerals left after incinerating the sample for approximately 16 hours at 565° C. The results were reported as percentage of the sample which was incinerated.

Mixogram - The mixogram was determined by using 30 g. of flour and adding 20 cc. of water. The sensitivity spring setting was set at 10. All mixograms were run with constant weight of flour and volume of water. Absorptions reported were adjusted according to the height of the mixogram. The correction factor was determined from a series of flours by varying the amount of absorption.

Mixogram Pattern - The reference mixogram patterns given at the end of the report demonstrate the different types of mixograms which were obtained. A single number is assigned each pattern to characterize and simplify the classification of the curves - the larger number indicating stronger curve characteristics.

Baking Procedure or Formula - The baking formula used was as follows:

100% flour	3% milk D.S.M.
2% salt	3% yeast
5% sugar	2% shortening (Crisco, melted)

The sample was mixed to development in a National Manufacturing mixer; for the 25 g. sample the Micro mixer, and for the 100 g. sample the 100 g. Special mixer size. Also, 10 p.p.m. of bromate, except for the 100 g. samples in which 5 p.p.m. of bromate was used for oxidation and 0.1% Barley Malt Flour for enzymatic supplement. The 25 g. samples were moulded in a Roll-Er-Up moulder, while the 100 g. samples were "hand panned."

Absorption - This was the water, expressed as percent of the flour, required to bring the dough to proper consistency.

Crumb Color - This value was determined by comparing the loaf of the tested sample against a baking standard. This standard was selected as an average for the crop year for the spring wheat area.

Loaf Volume - This was volume of the baked loaf as determined by seed displacement.

All values (Protein, Ash, and Absorption) were reported on a 14% moisture basis.

DISCUSSION

The following discussion presents some of the basic techniques and criteria used in the milling and baking quality evaluation of the samples. There are four major evaluation categories used: kernel characteristics, to characterize the kernel; milling performance, to evaluate the general milling characteristics; mixogram patterns, to classify the flour as to type; and baking evaluation, to rate the flour as to overall baking.

Each evaluation category can be important. A sample could be of a sufficiently poor quality for a given category to eliminate it from possible future testing. However, a sample submitted for the first time and found to be questionable should be tested again to establish if it has a satisfactory or unsatisfactory classification. A sample which is consistently rated as questionable should be discarded.

A computer program for evaluating milling and baking quality was developed from 749 previously evaluated uniform regional nursery samples. The samples represented 5 crop years, 7 states, 21 stations, and 33 series. Chris, Justin, and Selkirk were selected as the standard varieties for each series. The percent deviation of each independent variable varied from the mean of the standard varieties was determined. Limits consistent with previous data obtained on the 749 samples were established for each independent variable. Nebraska regressions were run to establish the regression coefficients of each variable.

Six characteristics (test weight, 1000 kernel weight, percent large kernels, percent small kernels, wheat mineral, and wheat protein) were independent variables used to calculate the dependent variable - Kernel Characteristics. Four characteristics (percent extraction, mineral @65% extraction, milling characteristic, and protein difference between flour and wheat protein) were used to calculate the dependent variable - Milling Performance. Bake absorption, mixing time, dough characteristics, crumb color, crumb grain, and loaf volume were the six independent variables used to determine the dependent variable - Baking Evaluation. These three dependent variables after calculation become independent variables, used to calculate the dependent variable - General Evaluation.

The three dependent variables, Kernel Characteristics, Milling Performance, and Baking Evaluation are rated on a scale of 1 to 8, with 1 being Very Satisfactory and 8 being Unsatisfactory. The General Evaluation is rated on a scale of 1 to 4, with 1 being no promise; 2, little promise; 3, some promise; and 4, good promise. If one of the independent variables conver value is 8 (with the exception of crumb color), this automatically will rate the General Evaluation as 1, or no promise. If there are no 8's, the three values are employed in a regression equation to derive the General Evaluation. The weighted value for each of these variables on the General Evaluation are approximately 6% for Kernel

Characteristics, 47% for Milling Performance, and 47% for Baking Evaluation.

To quickly point out problem areas for a selection, two additional columns have been added to the printout. One column is minor deficiencies in which the independent variables converted to a 5 or 6, that is Questionable or Questionable to Unsatisfactory will appear. The second column is major deficiencies in which the independent variables were converted either to a 7 or 8, that is Unsatisfactory to Questionable and Unsatisfactory. Deficiencies of the various selections may be readily determined by scanning these columns. It is also possible to have one or two independent variables that would appear in the major deficiency column, rating 7 and should be given serious consideration, but they still did not influence the general rating sufficiently to rank the selection as having no promise.

All samples, as in previous years, are compared to a milling and baking standard which represents a blend of the crop year blended to a known quality. However, the samples for the individual stations are evaluated against the average results of the check varieties from the respective stations. The agronomic and climatic conditions of the individual locations can effect the quality of the wheat sample, such that, the evaluation at certain locations could have all samples -- even the named varieties -- classified as questionable to unsatisfactory. Therefore, the evaluation ratings of one station are not directly comparable to those of another station. For example, an area may produce low protein wheats which give large and plump kernels, good milling and kernel characteristics, but low protein and unsatisfactory baking properties such as short mixing time, low loaf volume, and weak dough characteristics. The wheat from this area could not be considered as a strong spring wheat, and would not maintain the quality expected from the spring wheat producing area. A good variety should have tolerance to a wide range of environmental conditions and the overall picture taken into consideration for establishing these varieties.

Kernel Characteristics are important in determining the initial value of the wheat and, if extremely poor, could disqualify a new variety from further consideration. Because of the present grading system, it is desirable to have a good test weight. If a sample has a low 1,000 kernel weight and small kernel size distribution, it would be considered a poor sample for milling because of the high ratio of bran to endosperm. Therefore, it is desirable to have plump kernels. Wheat ash is an important factor when comparing a variety against other standard varieties. If a sample would have consistently higher wheat mineral content, it would enhance the probability of having high flour ash. Low protein would not be desirable when comparing with standard varieties, because in a low protein crop year the probability of it having such a low protein as to be undesirable is very probable. Therefore, the protein must also be considered as a characteristic when comparing other varieties grown in the same locality.

Milling Performance is very important, especially the sub-category of milling characteristics. If low extractions or high flour ash are obtained, this becomes a major factor and is quite unacceptable from a commercial milling standpoint. All flour mineral contents are reported at a constant extraction of 65% so that the figures are directly comparable. As a rule of thumb, one can approximate that each point of ash (0.01%) is equivalent to approximately 2% in extraction.

Milling characteristics are important. A sample which tends to be soft in character requires a different milling technique to be milled properly. On commercial mills flowed for hard vitreous spring wheats, soft milling characteristics cause great difficulty. Therefore, if a sample shows softness in character, it is considered to be unsatisfactory. Likewise, a sample which is extremely hard and vitreous will cause difficulty. Both types of wheat (soft and vitreous) require different roll pressures, clothing, sifter surface, and temper to be milled properly. If these wheats are blended with normal milling wheats, improper results are obtained since these characteristics are not necessarily compatible or additive. Normal to soft score indicates that the sample shows a tendency toward softness of character on the flour mill stocks and extraction. This would indicate that the sample may give some difficulty for certain mill streams and an adjustment would either have to be made in the milling flow, or in tempering procedures to compensate for these differences. The properties of this wheat may or may not be compatible with other wheats with which it may be blended, therefore, it is important to maintain varieties with as uniform milling characteristics as possible.

The amount of protein recovered in the flour for a sample is of importance. The high protein wheats yielding low protein flours are not desirable. Such a wheat would have much of the protein distributed in the outer portion of the kernel which would result in excessive protein in the feed. Therefore, higher protein in the wheat would be necessary to yield a flour of comparable protein to a wheat which gives good flour protein recovery.

Mixogram Patterns and Farinogram Patterns are important in estimating the strength and mixing tolerance or potential mixing tolerance of a flour. A long flat curve is more desirable than a short peaked curve; however, an extremely long curve may be undesirable, if the flour would require excessive mixing for proper development. The pattern of the curve is of importance as well as the length, and both must be considered. An abnormal curve, such as a sway-back or long initial time to incorporate the water, indicate undesirable characteristics.

Baking Evaluation takes into account the flour absorption, mixing time, dough characteristics, loaf volume, and machinability. A sample which has low absorption would be unsatisfactory, compared to other spring wheats with normal absorption. A sample with extremely short mixing time would also be considered undesirable as a good strong spring wheat. When a sample is in the minimal range for these values, it is considered as questionable until further testing demonstrates whether a definite deficiency exists.

Doughs having mellow to weak dough properties show a tendency towards weakness. Also, for mellow to strong, the dough is mellow but has a tendency to be strong, and a strong to mellow dough is just the reverse. Since these characteristics are subjective rather than objective, it is necessary at times to estimate the tendency; therefore, the necessity exists for apparent double grades.

The grain or appearance of the interior of the loaf shows how well the sample stood up during baking and may point out or explain some deficiencies which have been observed during the baking test.

Loaf volume indicates potential strength of the flour in a different manner than mixing time or dough characteristics, in that it shows the ability or lack thereof for the dough to expand under pressure and to contain the entrapped gases during this expansion. Weak flours act much like rotten balloons which burst when blown up and collapse, thus yielding low loaf volume or extremely large volume and large holes in the interior of the loaf. Low protein flours and lifeless (dead) doughs exhibit the properties similar to putty and do not expand during fermentation or baking and give low loaf volume. Tough and very bucky doughs are bound too tight and impede expansion of the gases causing low loaf volume.

General Evaluation rating applies only to the data contained in the year of the report. A new category, The Prospect of a selection, will apply to two or more years of data. The Prospect is given for each selection which has been tested for at least two crop years. This evaluation takes into account the various grading factors and the results of the crop years in an effort to determine if the selection should be considered as a prospective new variety. The main defects and outstanding features are discussed. A selection which is promising should be continued. Those which show some promise with outstanding agronomic characteristics should be seriously considered and looked at in large plots, if it has not been previously, providing other sufficient information has been obtained. A sample which shows little or no promise should be discontinued.

FIELD PLOT NURSERY SAMPLES - 1971 CROP

One hundred and forty field plot nursery samples were received from three states and five stations. The data for the individual samples are given in Tables 1 through 4. In Table 5, are given the averages for the varieties by state for the following varieties: Chris, Justin, and Selkirk for North Dakota. The averages for these commercial varieties per location were used as standards for judging the other samples in the field plots. The averages for California are not given due to the fact that all of these varieties were semidwarfs. The Colorado data were not included since only one station, as well as one check variety (Chris) was received. The milling and baking standard Chris blend was used for the samples which did not have comparable grown check varieties. The 1970 and 1971 averages also are given for the check varieties from the state of North Dakota.

CALIFORNIA SAMPLES

Fifty-one samples were received from the Davis and El Centro, California stations. All of these samples were named varieties, semi-dwarfs or semidwarf selections. The named varieties were: Anza, Bluebird 2, Bluebird 3, Ciano 67, Inia 66 Sel., Nuri 70, and Siete Cerros 66. The selections or varieties not discussed independently should be discarded as showing no promise. The results for each variety are given in Table 1. The selections were tested against both the Ciano 67 as a check variety and the regular Chris spring wheat milling and baking standard. Only the data using the Ciano 67 check are given, since the Chris check being higher in protein caused a majority of the samples to be rated no promise on the basis of protein content.

Anza

Kernel Characteristics - Unsatisfactory. Low protein and small kernel size.

Milling Performance - Satisfactory.

Baking Evaluation - Unsatisfactory. Low bake absorption, dead doughs, low loaf volume, and short mixing time.

General Evaluation - Based on this crop year's results, this variety would show no promise in the California area, even compared with Ciano 67.

Bluebird 2

Kernel Characteristics - Satisfactory to Questionable. Large percentage of small kernels.

Milling Performance - Questionable. Minimum flour extraction and high flour ash at 65% extraction.

Baking Evaluation - Unsatisfactory. Tendency towards weak doughs and low bake absorption.

General Evaluation - This variety shows no promise, based on this year's results of poor milling and baking results.

The Prospect - Based on two years' results, this selection would show little promise as a new variety because of erratic milling results in showing very satisfactory results last year and questionable results this year, as well as a definite tendency toward weak doughs and erratic results regards to loaf volume, protein content, and bake absorption.

Bluebird 3

Kernel Characteristics - Questionable to Satisfactory. Tendency towards low test weight and small kernel size.

Milling Performance - Satisfactory to Questionable. Tendency to have too large a spread between flour and wheat protein.

Baking Evaluation - Satisfactory.

General Evaluation - This variety would show some promise.

The Prospect - Based on two crop years' results, this selection would show some promise, although it has given erratic results. Last year it showed a definite tendency to have erratic protein content, minimum bake absorption and loaf volume, as well as dead doughs when the protein content was low. The dead dough characteristics associated with low protein is probably more prevalent with this variety than with some of the other selections.

Inia 66 Sel.

Kernel Characteristics - Satisfactory to Questionable. Tendency towards low protein.

Milling Performance - Satisfactory to Questionable. Minimum extraction.

Baking Evaluation - Questionable. Tendency towards erratic results for dough characteristics and minimum bake absorption.

Inia 66 Sel. (Cont'd.)

General Evaluation - This variety shows some promise in the California area, although it does have a tendency to show erratic results respondent to the environmental conditions which appear to be somewhat unpredictable.

Nuri 70

Kernel Characteristics - Satisfactory to Questionable. Tendency towards small kernels.

Milling Performance - Questionable. Tendency towards high ash at 65% extraction.

Baking Evaluation - Questionable. Tendency towards low bake absorption.

General Evaluation - This variety would show little promise.

The Prospect - This variety was originally known as Bluebird No. 1 and based on two crop years, this variety would show little promise as a variety because of low protein, weak doughs, low absorption, and a tendency towards low loaf volume.

Siete Cerros 66

Kernel Characteristics - Unsatisfactory. Low test weight, low 1,000 kernel weight, poor kernel size distribution, and low wheat protein.

Milling Performance - Unsatisfactory. High flour mineral content and low extraction.

Baking Evaluation - Unsatisfactory. Low absorption, dead dough, poor grain, and low loaf volume.

General Evaluation - This variety would show no promise.

The Prospect - Based on four crop years' results, this variety shows no promise.

7021

Kernel Characteristics - Satisfactory to Questionable. Tendency towards small kernels.

Milling Performance - Very Satisfactory.

7021 (Cont'd.)

Baking Evaluation - Questionable to Unsatisfactory. Low absorption and tendency towards strong dough.

General Evaluation - Based on this year's results, this selection would show some promise.

The Prospect - Based on two crop years' results, this selection would show some promise as a new variety, although it has shown somewhat erratic results with a tendency for lower than expected protein in low protein areas. This year it had low bake absorption.

7052

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable. Low absorption and strong dough.

General Evaluation - This year's results show this selection to have some promise.

The Prospect - This selection would show some promise as a new variety based on two crop years' results. It does have a tendency to show somewhat erratic results; that is, lower than normal protein in low protein areas accompanied with low loaf volume, and in high protein areas a tendency towards strong doughs but not as high absorption as would be anticipated.

7055

Kernel Characteristics - Questionable to Satisfactory. Minimum test weight, 1,000 kernel weight and small kernels.

Milling Performance - Questionable to Satisfactory. Minimum flour extraction.

Baking Evaluation - Satisfactory.

General Evaluation - This selection would show little promise.

The Prospect - Based on two crop years' results, this selection would show little promise as a new variety due to minimum baking performance last year and minimum kernel characteristics and milling performance this year.

7059

Kernel Characteristics - Satisfactory. Tendency towards low test weight and small kernel size.

Milling Performance - Satisfactory.

Baking Evaluation - Satisfactory.

General Evaluation - This selection would show good promise this year.

The Prospect - Based on two crop years' results, this selection would show some promise as a new variety. Last year this selection showed a tendency towards low loaf volume, protein content, and weak dough.

7079

Kernel Characteristics - Satisfactory. Tendency towards low test weight and small kernel size.

Milling Performance - Satisfactory to Questionable. Tendency towards high mineral content at 65% extraction.

Baking Evaluation - Satisfactory.

General Evaluation - Based on this year's crop results, this selection would show good promise as a new variety.

7153

Kernel Characteristics - Satisfactory to Questionable. Minimum test weight and small kernel size.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable. Low absorption.

General Evaluation - Based on this year's crop results, this selection would show some promise as a new variety.

7156

Kernel Characteristics - Questionable to Satisfactory. Low test weight and small kernel size.

Milling Performance - Satisfactory. Showed a tendency toward maximum spread between protein content of wheat and flour.

7156 (Cont'd.)

Baking Evaluation - Satisfactory. The sample did, however, have poor crumb color.

General Evaluation - Based on this year's crop results, this selection would show good promise as a new variety.

7157

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory to Questionable. Tendency towards low extraction.

Baking Evaluation - Questionable to Satisfactory. Shows a definite tendency towards weak dough.

General Evaluation - This year's results show this selection to have some promise as a new variety.

COLORADO SAMPLES

Eleven samples were received from the Fort Collins, Colorado station. All of these samples were named varieties, except a Northrup King selection 70Y14.

The Chris variety was used as the check for the series. The varieties showing no promise were Bluebird 1, Bluebird 4, Ciano Sib (Calano), Red River 68, Siete Cerros 66, Waldron, and Northrup King NK 70Y14. The varieties Bounty 208, Inia 66, and Inia 66 Sel., showed some promise in this series. Data are given in Table 2.

Inia 66 Sel.

Kernel Characteristics - Questionable. Minimum wheat protein.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable. Minimum bake absorption and maximum mixing time.

General Evaluation - Based on this crop year's results, this selection would show some promise as a new variety. It does have a tendency toward minimum protein and bake absorption, as well as maximum mixing time.

NK 70Y14

Kernel Characteristics - Satisfactory to Questionable. Tendency for lower protein content.

Milling Performance - Satisfactory.

Baking Evaluation - Unsatisfactory. Long mixing time and tendency towards strong, tough doughs.

General Evaluation - Based on this crop year's results, this selection would show no promise as a new variety due to the undesirable baking characteristics, especially the mixing properties and dough handling properties.

NORTH DAKOTA SAMPLES

Seventy-eight samples were received from the Carrington irrigated and dryland plots and the Dickinson, North Dakota stations. Fifty-four samples were the named varieties which have been released: Barton, Bonanza, Bounty 208, Chris, Empire, Era, Fletcher, Fortuna, Justin, Manitou, Neepawa, Polk, Red River 68, Selkirk, Thatcher, Waldron, Lark (WS 1651-E), WS 1809, and WS 1812. Twenty-four were the experimental selections: WS 1877, NK AB67-70, North Dakota selections ND 491, 497, 499, 500, 501, 502, and Sawfly ND S6662. The results for each variety and selection are given in Tables 3 and 4. The average results of the 1971 data are given in Table 5.

WS 1877

Kernel Characteristics - Satisfactory to Questionable. Minimum acceptable protein content.

Milling Performance - Very Satisfactory. Good extraction and low mineral content.

Baking Evaluation - Satisfactory. Tendency towards minimum loaf volume.

General Evaluation - Based on this crop year's results, this selection would show good promise as a new variety.

AB 67-70

Kernel Characteristics - Satisfactory. Tendency towards low kernel weight.

Milling Performance - Questionable to Satisfactory. Tendency towards low extraction, and protein loss between flour and wheat.

Baking Evaluation - Questionable to Satisfactory. Tendency for weak doughs.

General Evaluation - Based on this year's crop results, this selection would show some promise as a new variety.

The Prospect - Based on two crop years, this selection would show little promise as a new variety, because of consistent poor milling results and tendency towards weak doughs.

ND 491

Kernel Characteristics - Satisfactory to Questionable. Tendency towards low protein.

Milling Performance - Satisfactory to Questionable. Tendency towards low extraction.

Baking Evaluation - Questionable. Low bake absorption and tendency towards weak doughs.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety.

The Prospect - Based on three crop years, this selection would show no promise as a new variety due to the milling performance which tended to be somewhat erratic, giving poor recovery from year to year and the poor dough characteristics which tend to be erratic from year to year.

ND 497

Kernel Characteristics - Questionable to Satisfactory. Tendency for low protein.

Milling Performance - Satisfactory to Questionable. Tendency to low extraction.

Baking Evaluation - Questionable to Unsatisfactory. Low absorption, poor dough handling properties, with long mixing time characteristics.

General Evaluation - Based on this year's results, this selection would show little promise as a new variety due primarily to poor baking characteristics.

The Prospect - Based on two crop years' results, this selection would show no promise as a new variety primarily because of poor baking performance which was noted the previous year.

ND 499

Kernel Characteristics - Satisfactory to Questionable. Tendency towards low protein.

Milling Performance - Very Satisfactory.

Baking Evaluation - Questionable. Tendency to low absorption, long mixing time, and peculiar dough handling properties.

General Evaluation - This year's results show this selection to have little promise as a new variety due to the erratic results.

ND 500

Kernel Characteristics - Satisfactory to Questionable. Minimum test weight, kernel weight, and wheat protein.

Milling Performance - Satisfactory to Very Satisfactory.

Baking Evaluation - Questionable to Unsatisfactory. Very definite tendency to low absorption.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety due to the minimal kernel characteristics and bake absorption, even though it does have relatively good milling properties.

ND 501

Kernel Characteristics - Satisfactory.

Milling Performance - Unsatisfactory. High ash content at 65% extraction.

Baking Evaluation - Satisfactory to Questionable. Tendency to have tough dough.

General Evaluation - This year's results show this selection to have no promise due to the poor milling performance.

ND 502

Kernel Characteristics - Satisfactory to Questionable. Small amount of large kernels.

Milling Performance - Questionable to Unsatisfactory. Low extraction.

Baking Evaluation - Very Satisfactory.

General Evaluation - This year's results show this selection to have some promise, even though the milling performance was poor; however, this was based on just one sample.

S6662

Kernel Characteristics - Satisfactory to Questionable. Minimum protein content.

Milling Performance - Very Satisfactory to Satisfactory.

S6662 (Cont'd.)

Baking Evaluation - Satisfactory to Questionable. Tendency for weak doughs.

General Evaluation - Based on this crop year's results, this selection would show some promise as a new variety, although it does show minimum dough handling properties.

UNIFORM REGIONAL NURSERY SAMPLES - 1971 CROP

A total of 340 Uniform Regional Nursery samples were received. The samples represented 17 stations from eight states. No blends were made of the samples for this crop year due to the lack of compatibility and were milled as individual samples to eliminate any possible erroneous results. Thus, a total of 340 samples were milled and baked. Twenty samples were received from each of the stations. Eight selections were included for quality evaluation in the Uniform Regional Nursery samples; a ninth selection WS 1651-E was named Lark and released before the evaluations were completed. The remainder of the samples were the commercially named varieties of: Bonanza, Bounty 208, Chris, Era, Fletcher, Justin, Marquis, Neepawa, Selkirk, Waldron, and WS 1809.

Twenty samples were received from the Tetonia, Idaho station. Data for these samples are given in Table 6.

Sixty samples were received from the three Minnesota stations: Crookston, Morris, and St. Paul. Data for these samples are given in Tables 7 and 8.

Sixty samples were received from three stations in Montana: Bozeman, Havre, and Sidney. Data for these samples are given in Tables 9 and 10.

One hundred samples were received from five stations in North Dakota: Carrington, Dickinson, Fargo, Langdon, and Minot. The data for these samples are given in Tables 11 through 13. The samples from Carrington were grown on irrigated land.

Forty samples were received from two stations in South Dakota: Highmore and Watertown. The data for these samples are given in Table 14.

Twenty samples were received from Lind, Washington. The data for these samples are given in Table 15.

Twenty samples were received from Madison, Wisconsin. The data for these samples are given in Table 16.

Twenty samples were received from Sheridan, Wyoming. The data for these samples are given in Table 17.

In Table 18 are given the average results for each of the twenty samples submitted from eight states and 17 stations. The results for kernel characteristics and milling performance were obtained by averaging the results from the 12 tables---6 through 17. The baking results were obtained from a blend of the flours in equal proportions from each of the stations for the respective variety or selection. The regular 100 g. straight dough rich formula baking procedure was used in baking the flour blends. The General Evaluation column includes the general overall

performance of the blend of each sample. The General Evaluation given for the sample may not agree with that of the blend, since averages do not express the range and poor characteristics may be masked. In an endeavor to clarify this problem, the averages of General Evaluation, the number of total deficiencies and the number of major deficiencies are given after each variety or selection in parenthesis -- (Average General Evaluation - #Total Deficiencies/#Major Deficiencies).

For simplicity and brevity of the report, as in previous reports, each variety will be discussed from the general overall viewpoint rather than the individual stations. The general evaluation summarizes the results from the individual stations for one crop year. The evaluation is more meaningful for the overall performance of a variety or selection when at least two or more crop years are included. The data discussed under the category, The Prospect, includes two or more years.

In Table 19, the averages are given by states for the three varieties of Chris, Justin, and Selkirk. This table gives a comparison of the varieties by state, as well as state averages of the three varieties for comparative purposes, and the 1971 grand averages for the three varieties for comparison of the two crop years. In general, the 1971 crop had slightly better kernel characteristics (test weight, 1,000 kernel weight, kernel size distribution) than last year with approximately 1/2% lower protein content. The milling was better than last year showing a 2% higher flour extraction, and 3 points lower flour mineral content. The absorption was 1½% less than last year. The mixing time was slightly shorter than last year, as were the mixogram patterns. The dough characteristics were stronger. The crumb color was the same, but the crumb grain was better than last year. The loaf volume was approximately the same as last year.

The average results of the varieties, Chris, Justin, and Selkirk, for each of the individual stations, were used as a standard for the other selections from that station; therefore, a variety or selection may be rated satisfactory at two different stations, but comparison of the data may show much poorer results for one station due to adverse environmental conditions. Thus, in actuality, the sample with poor results could be rated as unsatisfactory quality wise when compared to the overall spring wheat area. The state averages in Table 19, are additional guides for the relative performance for the crop year by states.

By using the new format and employment of the computer, all named varieties receive a general evaluation. Only those varieties in the Good Promise category could be consistently considered as acceptable to the trade both in the domestic as well as foreign markets. However, in order to be brief, the varieties may be broadly classified as follows:

Bonanza (1.7 - 79/26) - No Promise.

Bounty 208 (1.9 - 59/22) - No Promise.

Chris (3.1 - 30/2) - Good Promise.

Era (1.2 - 77/40) - No Promise.

Fletcher (2.3 - 44/19) - Little Promise.

Justin (3.4 - 17/1) - Good Promise.

Marquis (2.3 - 52/18) - Little Promise.

Neepawa (2.2 - 42/12) - Little Promise.

Selkirk (2.7 - 38/5) - Some Promise.

Waldron (2.8 - 32/8) - Some Promise.

World Seeds 1809 (2.6 - 42/9) - Some Promise.

WS 1651-E (Lark) (1.5 - 82/34)

Kernel Characteristics - Questionable to Unsatisfactory. Low 1,000 kernel weight, poor kernel size distribution, and low protein.

Milling Performance - Questionable to Satisfactory. Low extraction and high flour mineral content at 65% extraction.

Baking Evaluation - Questionable to Unsatisfactory. Low absorption, long mixing time, and poor dough handling properties

General Evaluation - This selection would show no promise as a new variety, based on this crop year's results because of deficiencies in every category.

ND 491 (2.7 - 29/6)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory to Questionable. Tendency towards low extraction.

Baking Evaluation - Satisfactory to Questionable. Tendency towards low absorption and weak doughs.

General Evaluation - Based on this year's crop results, this selection would show some promise as a new variety.

ND 491 (Cont'd.)

The Prospect - Based on two crop years, this selection would show some promise as a new variety, but does have minimum extraction and bake absorption, as well as a tendency for weak dough characteristics.

ND 497 (2.1 - 43/8)

Kernel Characteristics - Satisfactory to Questionable. Low protein content.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable. Minimum baking absorption, maximum mixing time, and poor dough handling properties.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety.

ND 499 (2.2 - 44/13)

Kernel Characteristics - Questionable to Satisfactory. Minimum protein content.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable. Definite minimum absorption, and tendency towards weak doughs.

General Evaluation - This selection would show little promise as a new variety based on this crop year's results.

The Prospect - Based on two crop years, this selection would show little promise as a new variety. Last year it showed good promise, however the growing conditions were favorable for the characteristics which usually give minimum evaluation. An example is the complete reversal in the dough characteristics from strong doughs to a tendency towards weak doughs.

ND 501 (1.6 - 33/19)

Kernel Characteristics - Satisfactory.

Milling Performance - Unsatisfactory. Low extraction, high flour mineral content at 65% extraction.

Baking Evaluation - Satisfactory.

General Evaluation - Based on this crop year's results, this selection would show no promise as a new variety primarily because of its poor milling performance.

ND 506 (2.6 - 32/7)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory to Questionable. Tendency to give minimum extraction, occasional high flour ash, and large protein spread between flour and wheat.

Baking Evaluation - Satisfactory to Questionable. Tendency for minimum absorption and strong doughs.

General Evaluation - This year's results for this selection would indicate that it would have some promise as a new variety.

Wisc. 271 (1.8 - 68/20)

Kernel Characteristics - Questionable to Unsatisfactory. Minimum test weight, 1,000 kernel weight, kernel size distribution, and low protein.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable. Definite tendency towards minimum absorption, long mixing time, and strong doughs.

General Evaluation - This selection would show no promise as a new variety, based on this crop year's results due to several deficiencies -- especially protein content, strong doughs, long mixing requirements, and low absorption.

The Prospect - This selection would show no promise as a new variety based on five crop years, primarily because of a tendency towards long mixing, strong doughs, minimum protein content, as well as bake absorption.

Wisc. 67-1-69 (2.2 - 41/19)

Kernel Characteristics - Questionable to Satisfactory. Minimum protein content.

Milling Performance - Satisfactory.

Baking Evaluation - Unsatisfactory to Questionable. Minimum absorption, definite tendency to too long mixing, and too strong doughs.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety, primarily because of the baking characteristics of long mixing and strong doughs.

Wisc. 67-1-69 (Cont'd.)

The Prospect - This selection would show no promise as a new variety based on three crop years' results, due to tendencies for minimum protein content and tendencies towards long mixing time and doughs which are too strong, as well as a tendency towards minimum milling characteristics.

NK 70Y14 (1.1 - 61/30)

Kernel Characteristics - Questionable. Minimum kernel size distribution and low protein.

Milling Performance - Satisfactory.

Baking Evaluation - Unsatisfactory. Mixing time too long and dough characteristics too strong.

General Evaluation - Based on this crop year's results, this selection would show no promise as a new variety, primarily due to the low protein content, long mixing time, and strong dough.

SAWFLY YIELD NURSERY SAMPLES - 1971 CROP

One hundred and four samples were received from two stations in Montana and two stations in North Dakota. Twenty-one samples were received from each of the stations: Conrad and Sidney, Montana and Fargo and Minot, North Dakota. Five of these samples were the named varieties: Chinook, Chris, Fortuna, Rescue, and Thatcher. Sixteen of the samples were the selections: MT 7020, MT 7025, MT 7026, S683, S686, S6662, S6677, S6763, S6765, S6851, S6855, 01-484, 068-159, 7530-411, 7823-112, and 8068-40. Replicate samples from Minot were processed, however, selection S683 was only in Replicate II. The data for these samples from the individual stations are given in Tables 20 through 22. In Table 23, are the averages for these data. Again, averages and blends may not reflect the range of response of a selection or variety to environmental conditions; therefore, averages of the General Evaluation, number of total deficiencies, and the number of major deficiencies are given as they were for the Uniform Regional Nursery series. The varieties of Chinook, Chris, Fortuna, Rescue, and Thatcher from each station were averaged for a standard of performance and results of the individual samples were compared to this average.

Chinook (3.0 - 6/0) - Good Promise.

Chris (3.2 - 9/2) - Good Promise.

Fortuna (3.4 - 5/2) - Good Promise.

Rescue (1.8 - 14/4) - Little Promise.

Thatcher (2.0 - 27/6) - Little Promise.

MT 7020 (1.0 - 31/15)

Kernel Characteristics - Unsatisfactory. This selection was deficient in all categories.

Milling Performance - Questionable. Tends to give low extraction and high mineral content at 65% extraction.

Baking Evaluation - Questionable. Tends to give minimum absorption and loaf volume, as well as too long mixing time and too strong a dough.

General Evaluation - This selection would show no promise as a new variety because of deficiencies in kernel characteristics, which tend to be reflected in the milling process.

MT 7025 (1.2 - 28/16)

Kernel Characteristics - Questionable to Unsatisfactory. Minimum test weight, 1,000 kernel weight, wheat protein and kernel size distribution.

Milling Performance - Unsatisfactory. Low extraction, and high flour ash.

Baking Evaluation - Questionable to Unsatisfactory. Minimum absorption and weak dough characteristics.

General Evaluation - This selection would show no promise as a new variety, as it is deficient in almost all categories.

MT 7026 (1.4 - 23/6)

Kernel Characteristics - Questionable. Minimum 1,000 kernel weight, tendency towards low test weight and poor kernel size distribution.

Milling Performance - Satisfactory to Questionable. Tendency towards high ash in the flour.

Baking Evaluation - Unsatisfactory to Questionable. Minimum bake absorption, loaf volume, a tendency towards short mixing, and has the poorest crumb color of all the samples.

General Evaluation - This crop year's results show this selection to be of little promise as a new variety.

S683 (2.5 - 11/3)

Kernel Characteristics - Satisfactory to Questionable. Tendency towards low percentage of large kernels.

Milling Performance - Satisfactory to Questionable. Tendency towards high flour mineral content.

Baking Evaluation - Satisfactory. Minimum bake absorption and color.

General Evaluation - Based on this crop year's results, this selection would show some promise as a new variety; however, if it continues to show big responses to environmental conditions of either being satisfactory or not satisfactory, it should be discarded.

S686 (3.8 - 3/0)

Kernel Characteristics - Satisfactory.

Milling Performance - Very Satisfactory.



S686 (Cont'd.)

Baking Evaluation - Satisfactory.

General Evaluation - This selection shows good promise as a new variety.

S6662 (3.8 - 2/0)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory.

Baking Evaluation - Satisfactory.

General Evaluation - This selection shows good promise as a new variety.

The Prospect - Based on three crop years' results, this selection would show good promise as a new variety.

S6677 (3.2 - 5/0)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory.

Baking Evaluation - Questionable to Satisfactory. Tendency toward weak doughs.

General Evaluation - Based on this crop year's results, this selection would show good promise as a new variety.

S6763 (1.8 - 13/4)

Kernel Characteristics - Satisfactory.

Milling Performance - Questionable. Minimum extraction and maximum flour ash.

Baking Evaluation - Questionable to Satisfactory. Definite tendency toward weak doughs and minimum absorption.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety.

The Prospect - Based on two crop years' results, this selection would show little promise as a new variety, primarily due to the minimum milling performance.



S6765 (1.6 - 14/5)

Kernel Characteristics - Satisfactory. Tendency toward minimum test weight.

Milling Performance - Questionable. Tendency for low extraction and high ash.

Baking Evaluation - Questionable to Satisfactory. Tendency toward weak doughs and low loaf volume.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety, due to milling and baking performance.

The Prospect - Based on two crop years' results, this selection would show no promise as a new variety, due to minimum milling performance and baking characteristics.

S6851 (2.2 - 10/3)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory to Questionable. Minimum extraction and maximum flour ash.

Baking Evaluation - Questionable to Satisfactory. Low absorption and minimum dough properties.

General Evaluation - Based on this crop year's results, this selection would show little promise as a new variety, due to questionable milling and baking characteristics.

S6855 (1.6 - 13/5)

Kernel Characteristics - Satisfactory.

Milling Performance - Questionable. Minimum extraction and maximum mineral content in the flour.

Baking Evaluation - Questionable to Unsatisfactory. Low bake absorption, weak doughs, and low loaf volume.

General Evaluation - This crop year's results show this selection to have little promise as a new variety.

01-484 (2.8 - 12/2)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory to Questionable. Maximum mineral content in the flour.

Baking Evaluation - Satisfactory to Questionable. Tendency towards weak dough.

General Evaluation - This selection would show some promise as a new variety, although it does give somewhat erratic results for kernel characteristics and maximum mineral content in the flour, and minimum dough strength.

068-159 (2.6 - 12/3)

Kernel Characteristics - Satisfactory to Questionable. Minimum kernel weight, minimum amount of large kernels, and maximum wheat mineral content.

Milling Performance - Satisfactory to Questionable. Minimum flour extraction.

Baking Evaluation - Satisfactory.

General Evaluation - Based on this crop year's results, this selection would show some promise as a new variety, although it does tend to give somewhat erratic results with minimum dough characteristics.

7530-411 (2.4 - 7/1)

Kernel Characteristics - Satisfactory.

Milling Performance - Satisfactory.

Baking Evaluation - Satisfactory to Questionable. Shows a definite tendency towards minimum absorption.

General Evaluation - Based on this crop year's results, this selection would show some promise as a new variety.

7823-112 (1.4 - 20/10)

Kernel Characteristics - Questionable to Satisfactory. Minimum test weight, kernel size distribution and high wheat mineral content.

Milling Performance - Unsatisfactory. Low extraction and high flour mineral content.

7823-112 (Cont'd.)

Baking Evaluation - Questionable to Unsatisfactory. Weak doughs.

General Evaluation - Besides having minimal kernel characteristics and baking characteristics, one sample definitely showed soft milling characteristics. Therefore, this selection would show no promise as a new variety based primarily on the milling characteristics, low extraction and high ash.

8068-40 (2.6 - 13/3)

Kernel Characteristics - Satisfactory to Questionable. Minimum kernel size, 1,000 kernel weight, and wheat protein.

Milling Performance - Satisfactory to Questionable. Minimum flour extraction.

Baking Evaluation - Satisfactory. Tendency towards weak doughs.

General Evaluation - This selection would show some promise as a new variety; however, it does have a tendency to be either satisfactory or unsatisfactory. If such characteristics continue, it would show little promise.

TABLE 1

QUALITY DATA ON FIELD PLOT NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.		T.W.	1000 KG.		WHT. MIN.	WNT. %	KERN. %	FLR. MIN. 2	MLG. %	MIX. AB.	BAKE AB.	MIX. TIME	DOUGH CRUMB	CRUMB COLOR	CRUMB GRAIN	LCAF BAKE VOL.	BAKE EVAL.	GEAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY						
		#/BU.	g	kg	g	g	g	g	g	g	g	min.		cc	cc	cc										
DAVIS, CALIFORNIA																										
CLIANO 67	66.9	39.5	66	33	1	1.75	11.7	2	67.0	0.38	11.1	1	2	62.5	4	61.4	3.25	5	103.6	85.99	780	2	4	WP 8A	00	LV
ANZA	66.9	37.7	54	43	3	1.42	5.5	8	66.2	0.36	8.5	1	2	57.8	1	56.8	1.50	20	100.5	80.00	650	8	1	WP 8A	00	LV
INIA 66 SEL	66.0	42.7	71	28	1	1.34	10.6	5	64.8	0.37	10.1	2	3	60.3	3	59.1	3.25	6	102.8	83.05	750	7	2	WP 8A	00	LV
SIETE CERROS	63.7	34.5	49	48	3	1.44	8.8	8	60.0	0.45	7.9	5	8	58.3	3	57.0	3.50	20	101.5	75.01	590	8	1	WP 8A	00	LV
D 7045	40.3	65	33	2	1.44	10.5	6	66.2	0.37	9.5	1	2	60.0	5	58.9	4.00	7	101.0	86.99	705	8	1	WP 8A	00	LV	
D 7164	65.8	40.3	70	28	2	1.42	10.1	8	66.9	0.38	9.3	1	2	59.3	5	58.1	3.75	6	100.8	90.99	775	8	1	WP 8A	00	LV
D 7165	65.3	44.2	71	27	2	1.55	10.4	6	66.0	0.38	9.3	1	3	60.7	5	59.5	4.75	6	100.5	88.10	715	7	2	WP 8A	00	LV
D 7166	66.2	34.2	45	53	2	1.48	9.6	8	65.0	0.39	8.5	1	4	59.7	6	58.4	4.75	6	101.5	85.09	725	8	1	WP 8A	00	LV
D 7167	61.8	31.8	48	48	4	1.63	10.1	8	65.5	0.38	8.7	3	4	58.7	3	57.2	2.50	7	105.6	86.01	745	8	1	WP 8A	00	LV
D 7168	65.3	39.1	62	35	2	1.53	9.8	8	65.0	0.41	8.8	2	5	56.7	2	55.2	3.00	20	103.7	82.01	685	8	1	WP 8A	00	LV
D 7169	64.9	42.2	64	35	1	1.51	10.6	6	67.1	0.38	9.5	1	2	59.7	4	58.4	3.50	6	102.0	85.09	740	8	1	WP 8A	00	LV
D 7170	65.1	43.7	74	25	1	1.48	10.7	5	66.9	0.37	9.9	1	2	60.7	6	59.5	4.75	6	100.0	86.99	750	6	2	WP 8A	00	LV
D 7171	65.2	44.1	74	25	1	1.46	10.4	6	66.5	0.37	9.5	1	3	59.7	4	58.4	3.25	5	101.7	84.01	780	8	1	WP 8A	00	LV
D 7172	65.1	41.7	70	29	1	1.45	11.0	6	66.3	0.37	10.2	5	3	60.0	4	58.9	4.00	6	100.7	84.01	750	8	1	WP 8A	00	LV
D 7173	65.8	36.1	52	40	2	1.53	11.0	5	64.1	0.33	10.2	5	8	61.6	6	60.2	4.50	5	100.0	84.01	930	4	1	WP 8A	00	LV
D 7174	65.8	36.1	55	43	2	1.40	10.1	8	63.0	0.41	9.5	5	7	61.9	3	61.5	3.50	7	102.0	84.01	705	5	1	WP 8A	00	LV
D 7175	66.0	40.2	64	34	2	1.47	11.3	3	64.3	0.38	10.1	5	4	62.5	4	61.0	4.25	20	101.0	87.99	710	8	1	WP 8A	00	LV
D 7176	66.8	39.2	67	31	2	1.52	11.0	4	63.2	0.40	10.1	5	6	61.9	4	60.1	4.50	20	102.0	82.01	675	8	1	WP 8A	00	LV
D 7177	65.5	41.2	65	33	1	1.41	10.6	6	63.5	0.40	9.7	5	6	59.7	5	58.1	4.75	7	101.7	86.99	695	8	1	WP 8A	00	LV
D 7178	66.7	40.8	65	34	1	1.42	10.0	8	69.2	0.38	9.1	1	2	59.3	3	57.8	3.25	6	102.7	82.10	690	8	1	WP 8A	00	LV
BLUEBIRD 2	66.3	41.8	55	43	2	1.40	11.3	3	64.6	0.41	10.7	2	5	59.7	6	58.5	4.25	6	100.8	92.70	785	8	1	WP 8A	00	LV
INIA 66 SEL	67.0	44.6	71	28	1	1.31	11.6	2	65.1	0.35	10.9	2	2	61.3	4	60.1	3.25	4	100.8	91.70	805	5	3	WP 8A	00	LV
D 7053	65.2	34.7	44	54	2	1.45	11.1	6	63.6	0.41	10.2	5	1	60.3	3	59.0	4.00	6	99.0	85.10	715	8	1	WP 8A	00	LV
D 7152	64.1	36.9	45	53	2	1.48	11.1	6	65.8	0.41	10.1	5	6	60.3	4	58.9	3.25	6	100.0	89.99	770	8	1	WP 8A	00	LV
D 7153	64.5	40.5	67	31	2	1.42	11.5	3	66.9	0.38	10.9	1	2	60.7	4	59.3	3.25	5	100.8	91.99	815	5	3	WP 8A	00	LV
D 7154	63.4	36.1	43	55	2	1.48	11.2	6	65.3	0.42	10.3	1	5	61.3	4	59.7	3.50	6	99.0	89.99	770	6	1	WP 8A	00	LV
D 7155	64.5	41.8	72	27	1	1.42	12.1	3	66.0	0.39	11.1	1	3	61.6	2	60.0	2.00	6	100.0	88.99	795	5	2	WP 8A	00	LV
D 7156	63.0	38.2	52	46	2	1.50	12.8	4	68.6	0.37	11.6	1	3	62.5	4	60.7	2.75	5	97.2	86.10	815	2	4	WP 8A	00	LV
D 7157	65.5	39.8	70	29	1	1.41	12.5	2	64.3	0.36	11.5	2	3	62.8	3	61.3	2.75	6	100.8	87.99	775	4	3	WP 8A	00	LV
D 7158	62.9	38.5	61	37	2	1.48	11.0	6	63.7	0.39	10.4	2	5	61.0	3	59.5	3.25	6	99.0	83.07	720	7	1	WP 8A	00	LV
D 7159	65.5	41.2	65	34	1	1.39	11.2	4	64.5	0.36	10.6	2	3	61.3	2	59.9	2.75	6	101.0	86.10	795	6	2	WP 8A	00	LV
D 7160	65.0	41.2	64	34	2	1.40	12.0	3	63.4	0.37	11.3	2	4	62.5	7	61.1	2.50	6	101.8	75.05	725	6	2	WP 8A	00	LV
D 7161	61.6	31.1	34	62	4	1.44	10.9	8	63.2	0.41	10.3	2	7	60.7	2	59.3	3.50	7	100.4	86.99	715	7	1	WP 8A	00	LV
D 7162	63.2	29.2	38	59	3	1.50	10.8	7	67.5	0.36	9.9	1	2	59.0	7	57.5	4.75	5	101.7	51.99	820	8	1	WP 8A	00	LV
BLUEBIRD 2	65.3	42.5	58	40	2	1.45	11.6	3	65.6	0.42	11.0	2	5	60.0	6	58.5	4.00	6	100.8	86.10	775	8	1	WP 8A	00	LV
NURI 70	66.4	38.6	58	40	2	1.48	12.0	3	67.2	0.42	11.4	1	5	60.7	5	59.1	3.50	5	101.0	89.99	760	5	2	WP 8A	00	LV
D 7004	66.9	45.2	68	30	2	1.47	11.1	5	66.5	0.42	10.6	1	5	59.7	4	58.1	3.75	6	100.8	87.10	745	8	1	WP 8A	00	LV
D 7021	65.6	37.3	62	35	3	1.49	12.0	3	70.6	0.38	11.3	1	2	61.6	7	59.8	4.50	4	101.8	85.10	805	6	2	WP 8A	00	LV
D 7051	66.1	41.2	70	29	1	1.50	13.3	2	65.5	0.38	13.0	2	3	61.9	3	60.0	2.75	4	100.8	83.10	815	5	2	WP 8A	00	LV
D 7052	65.9	45.5	80	20	1	1.46	13.6	2	66.8	0.34	13.1	1	2	61.9	3	60.3	2.25	3	100.9	92.70	875	5	3	WP 8A	00	LV
D 7055	65.2	36.4	50	48	2	1.50	13.0	4	63.9	0.39	12.2	2	4	62.3	3	60.8	2.50	5	100.0	87.10	825	2	3	WP 8A	00	LV
D 7059	64.5	40.5	62	36	2	1.50	12.6	3	68.0	0.36	12.0	1	2	62.5	4	61.0	3.25	5	100.0	89.99	825	2	4	WP 8A	00	LV
D 7061	63.6	38.8	54	44	2	1.51	11.9	4	64.7	0.40	11.2	2	5	61.9	4	60.3	3.50	5	100.0	88.99	800	3	2	WP 8A	00	LV
D 7079	64.3	41.7	62	36	2	1.57	13.1	3	66.3	0.40	12.5	1	3	62.5	6	60.7	4.00	5	100.0	86.99	820	2	4	WP 8A	00	LV
EL CENTRO, CALIFORNIA																										
CLIANO 67	66.9	39.5	66	33	1	1.75	11.7	2	67.0	0.38	11.1	1	2	62.5	4	61.4	3.25	5	103.6	85.99	780	2	4	WP 8A	00	LV
ANZA	66.9	37.7	54	43	3	1.42	5.5	8	66.2	0.36	8.5	1	2	57.8	1	56.8	1.50	20	100.5	80.00	650	8	1	WP 8A	00	LV
INIA 66 SEL	66.0	42.7	71	28	1	1.34	10.6	5	64.8	0.37	10.1	2	3	60.3	3	59.1	3.25	6	102.8	83.05	750	7	2	WP 8A	00	LV
SIETE CERROS	63.7	34.5	49	48	3	1.44	8.8	8	60.0	0.45	7.9	5	8	58.3	3	57.0	3.50	20	101.5	75.01	590	8	1	WP 8A	00	

TABLE 2

QUALITY DATA ON FIELD PLOT NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.M.	1000 KWT.	KERNEL SIZE		W.T. MIN.	W.T. PRO.	KERN. PRO.	FLR. EXT.	FLR. MIN. 3 EXT.	FLR. MIN. 4 EXT.	MLG. PRO.	MLG. CHAR.	MIX. PAT.	MIX. PAT.	BAKE ABS.	MIX. TIME	COUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	LCAF BAKE		MINOR DEFICIENCY	MAJOR DEFICIENCY
			LG	SM																VOL.	GEN.		
FORT COLLINS, COLORADO																							
BLUEBIRD 1	62.0	40.3	72	27	1	1.67	14.3	5	69.0	0.39	13.3	1	8	61.9	4	62.0	4	101.0	91.70	935	6	1	WP MT
BLUEBIRD 4	60.8	45.0	69	30	1	1.55	14.0	6	68.4	0.38	13.3	2	4	63.5	6	63.2	4	101.0	93.59	935	8	1	TM M65 BA
BLUNTY 208	63.5	36.8	71	28	1	1.84	14.9	3	68.5	0.34	13.5	2	2	63.2	5	62.8	4	102.0	91.70	935	5	3	BA MT
CHRIS	62.6	34.5	63	36	1	1.61	15.6	2	66.4	0.35	14.8	2	2	64.2	2	64.2	4	101.7	94.99	955	2	4	PT OO LV
CLANC 518	63.1	40.3	71	28	1	1.65	13.6	8	69.2	0.33	12.8	1	1	62.5	4	62.1	5	100.0	92.99	880	8	1	WP BA
INIA 66	62.9	41.7	75	24	1	1.61	14.2	5	67.7	0.33	13.5	1	1	64.2	4	63.6	3	102.0	95.99	980	5	3	WP MT OO
INIA 66 SEL	62.7	42.4	72	27	1	1.59	14.0	5	67.7	0.34	13.2	1	2	63.5	4	63.1	4	102.0	92.30	955	5	3	BA MT
RED RIVER 68	63.5	39.5	63	36	1	1.67	14.8	4	68.3	0.37	13.9	1	3	66.6	6	66.1	4	103.0	88.07	980	8	1	WP M65 DC
SIETE CERROS	63.7	36.8	60	38	2	1.82	11.8	8	63.9	0.36	10.7	3	4	63.5	3	62.9	7	100.7	87.99	795	8	1	SM BA
WALORN	62.7	39.7	84	15	1	1.79	15.2	2	66.6	0.37	13.6	1	3	64.2	3	63.8	7	102.0	90.50	960	8	1	WM M65 PO
NK 7014	63.2	41.7	71	28	1	1.63	15.0	3	71.2	0.35	14.0	1	2	64.2	5	63.8	4	100.0	86.05	1015	8	1	OO
																						MT	

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE 1-W.

2/ 1 1/2 STURGEON - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE 1-W.

3/ 1 1/2 STURGEON - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE 1-W.

4/ 1 1/2 STURGEON - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE 1-W.

5/ REFER TO REFERENCE MIXOGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK, 11 = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX.9 = BRIGHT WHITE, XXX.8 = WHITE, XXX.7 = SLIGHTLY CREAMY, XXX.6 = BRIGHT CREAMY, XXX.5 = CREAMY, XXX.4 = VERY CREAMY, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY.

8/ XXX.00 = SUGGY, XXX.01 = THICK WALL OR PARSH, XXX.03 = CLCSE, XXX.05 = OPEN, IRREGULAR, XXX.06 = OPEN-SLIGHTLY IRREGULAR, XXX.07 = IRREGULAR-OPEN, XXX.09 = OPEN, XXX.10 = SLIGHTLY OPEN, IRREGULAR, XXX.30 = SLIGHTLY OPEN, IRREGULAR, XXX.50 = SLIGHTLY IRREGULAR-OPEN, XXX.70 = SLIGHTLY OPEN, XXX.90 = SLIGHTLY IRREGULAR, XXX.99 = NORMAL.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

5 = QUESTIONABLE-SATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

TABLE 3

QUALITY DATA ON FIELD PLCT NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KMT.	KENNEL-SIZE LG MED SM	W.T. MIN.	W.T. PCT.	KERN. CHN.	EXT. CHN.	FLR. MIN.	FLR. CHN.	M.G. PCT.	M.G. CHN.	MIX. PCT.	MIX. CHN.	BAKE ABS.	MIX. TIME	COUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	LCAP EVAL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY	
ORYLANDO - CARRINGTON, NORTH DAKOTA																							
BARTON	63.1	37.7	74	25	1	1.42	12.4	5	63.2	0.34	11.7	2	4	60.0	3	60.1	6	101.7	85.99	805	7	1	WP 8A
8CMANZA	64.3	36.2	57	43	0	1.34	13.1	4	66.5	0.32	12.3	1	2	60.7	3	61.2	3	102.8	83.99	815	6	2	WP 8A CC
RCUNTY 208	65.3	35.0	61	38	0	1.37	13.5	2	67.8	0.30	12.3	1	1	61.0	5	61.2	4	101.8	89.90	855	4	3	8A
CHRIS	64.0	33.4	54	46	0	1.35	14.2	3	64.4	0.34	13.3	2	3	63.2	3	63.2	3	100.0	92.99	890	2	4	WP 8A
EMPIRE	61.2	32.5	54	46	0	1.46	12.8	6	67.3	0.33	11.6	1	2	60.7	3	60.7	5	101.7	84.05	850	5	3	WP 8A
ERA	63.5	35.9	32	67	1	1.50	12.5	7	66.3	0.37	11.9	1	8	60.7	4	60.3	3	101.5	89.99	820	6	1	WP 8A
FLETCHER	61.5	36.4	57	42	1	1.38	14.2	3	66.8	0.36	11.7	1	6	61.3	4	60.9	3	100.7	86.99	870	4	2	WP 8A
JUSTIN	63.0	36.4	72	27	1	1.56	13.8	2	66.6	0.33	13.4	1	2	63.5	3	63.0	4	101.0	87.99	850	2	4	WP 8A
MANITOU	63.1	32.3	57	42	1	1.40	14.2	3	65.1	0.34	13.3	2	2	61.6	3	61.3	4	100.7	87.09	865	4	3	WP 8A
NEEPAWA	63.2	35.3	62	38	0	1.45	14.0	2	63.6	0.34	12.9	2	4	61.0	2	62.0	4	99.5	51.99	840	2	3	WP 8A
POLK	64.4	39.1	69	31	0	1.45	14.2	2	65.4	0.34	13.5	1	3	62.5	4	62.1	4	100.0	88.10	900	2	4	8A
SELKIRK	62.4	38.3	65	34	1	1.56	13.9	3	66.6	0.34	12.9	1	3	60.7	2	60.7	2	99.0	90.99	850	5	2	8A
THATCHER	63.6	38.1	52	47	1	1.41	13.0	3	64.8	0.34	12.3	2	3	59.3	2	60.3	3	99.3	97.00	935	2	3	WP 8A
WALON	62.8	38.0	36	64	1	1.53	13.3	4	66.1	0.32	11.6	1	3	59.0	7	60.0	3	100.8	87.99	805	8	1	WP 8A
MS 1651-E	64.6	39.8	35	64	1	1.50	14.3	4	66.9	0.32	11.6	1	3	59.0	7	60.0	3	100.8	87.99	805	8	1	WP 8A
MS 1809	63.8	35.0	62	37	1	1.31	13.6	2	67.1	0.30	12.9	1	1	60.3	3	60.1	4	100.0	85.10	890	5	3	8A
MS 1812	64.9	40.0	45	55	0	1.43	13.2	4	67.4	0.30	12.1	1	1	62.3	2	62.1	4	101.5	86.59	870	2	4	WP 8A
MS 1877	64.6	36.2	52	47	1	1.35	14.3	3	68.5	0.30	13.2	1	1	61.6	5	61.6	4	100.0	89.99	885	2	4	WP 8A
A8-67-70	63.9	35.8	65	30	1	1.38	13.6	2	64.4	0.34	12.3	2	3	62.3	3	61.9	4	101.0	86.99	825	4	3	CC
NO 491	62.8	37.5	77	23	0	1.55	13.3	3	65.6	0.34	12.2	1	3	61.3	3	61.1	5	101.7	86.70	830	5	2	8A
NO 497	63.1	39.1	74	26	0	1.49	13.2	4	66.5	0.31	11.9	1	2	58.7	5	59.2	6	100.5	86.50	805	8	1	WP 8A
NO 499	63.6	39.1	78	22	0	1.47	13.3	3	67.8	0.32	12.2	1	2	60.3	3	61.3	3	104.0	85.09	855	4	3	8A
NO 500	62.0	33.1	50	49	1	1.49	13.3	5	66.5	0.32	12.4	1	2	59.7	3	59.7	3	104.6	83.10	825	8	1	WP 8A
NO 501	63.5	42.0	66	33	1	1.50	14.5	2	63.7	0.39	13.9	2	8	64.2	4	63.8	2	100.0	92.99	910	2	1	WP 8A
REO RIVER 68	64.5	38.2	47	53	0	1.34	13.9	2	68.3	0.36	13.4	1	4	66.0	6	65.7	4	101.0	80.05	925	5	2	WP 8A
S6662	63.5	43.1	81	19	0	1.44	12.3	5	67.5	0.32	11.8	1	1	60.7	2	61.4	6	100.0	85.09	820	5	3	WP 8A
IRRIGATED - CARRINGTON, NORTH DAKOTA																							
BARTON	63.3	41.5	84	16	0	1.59	13.9	2	63.5	0.36	12.4	2	3	62.5	3	61.9	2	101.0	83.99	815	2	4	WP 8A
BONANZA	64.8	39.1	75	25	0	1.56	14.0	2	67.0	0.39	11.8	1	2	58.1	2	57.6	3	101.8	94.99	770	8	1	WP 8A
BOUNTY 208	64.7	38.8	78	22	0	1.54	13.5	2	67.5	0.33	12.8	1	1	60.0	4	59.4	2	101.8	92.99	875	8	1	WP 8A
CHRIS	64.0	36.5	71	29	0	1.49	13.8	2	64.5	0.33	12.9	2	2	63.2	2	62.6	2	95.5	89.99	830	2	4	WP 8A
EMPIRE	62.0	35.6	70	30	0	1.58	11.9	6	67.0	0.37	11.1	1	3	61.6	3	61.1	5	102.0	87.99	830	4	3	WP 8A
ERA	64.7	34.1	68	32	0	1.56	12.6	5	67.7	0.35	11.4	1	2	61.3	4	61.3	6	102.6	85.99	790	4	3	WP 8A
FLETCHER	63.9	41.3	84	16	0	1.52	12.0	5	65.1	0.35	10.7	2	3	58.3	3	58.7	2	100.7	84.99	810	8	1	WP 8A
JUSTIN	63.3	40.7	86	14	0	1.59	13.8	2	64.9	0.34	12.8	2	2	62.8	3	62.4	3	100.7	86.99	840	2	4	WP 8A
MANITOU	63.4	34.4	65	35	0	1.54	12.4	5	63.9	0.36	11.6	2	3	60.0	3	59.7	2	100.5	86.99	780	8	1	WP 8A
NEEPAWA	63.4	38.9	81	19	0	1.63	12.3	4	59.1	0.31	11.3	3	8	60.7	2	60.2	2	100.5	80.99	735	8	1	WP 8A
POLK	64.2	42.7	82	18	0	1.45	13.5	2	64.8	0.36	12.4	2	3	62.5	4	62.0	3	98.0	92.99	920	4	3	WP 8A
SELKIRK	62.6	41.5	77	23	0	1.70	12.8	4	66.5	0.37	12.1	1	3	62.5	4	62.0	2	99.0	88.99	820	4	3	WP 8A
THATCHER	63.6	36.1	66	33	1	1.87	12.2	7	63.5	0.38	11.3	2	5	61.3	2	60.7	2	100.7	83.99	820	4	2	WP 8A
WALON	63.7	42.4	87	13	0	1.71	12.9	4	65.1	0.36	11.9	2	3	62.8	3	62.3	3	100.0	91.99	845	2	4	WP 8A
MS 1651-E	64.8	38.3	67	32	1	1.49	11.7	8	67.2	0.33	10.6	1	1	60.7	6	60.1	4	100.8	87.99	795	8	1	WP 8A
MS 1809	63.5	36.4	72	27	1	1.43	14.5	2	65.8	0.31	13.1	1	2	62.5	4	62.2	3	100.7	75.99	900	5	3	WP 8A
MS 1812	64.6	43.1	66	34	0	1.48	13.4	2	68.0	0.29	12.2	1	1	64.2	3	63.6	3	93.5	90.99	940	5	3	WP 8A
MS 1877	65.2	40.3	74	26	0	1.44	13.1	2	67.0	0.30	11.7	1	1	62.5	5	61.9	3	102.0	87.99	820	2	4	WP 8A
A8-67-70	64.4	45.5	85	14	1	1.49	14.6	2	63.4	0.34	12.7	2	4	64.2	4	63.3	3	102.8	85.99	855	2	3	WP 8A
NO 491	63.8	41.8	87	13	0	1.62	12.5	4	64.5	0.35	11.4	2	3	61.6	3	60.5	3	101.7	85.99	785	5	2	WP 8A
NO 497	63.4	44.8	87	13	0	1.56	12.8	4	65.5	0.32	11.5	1	2	61.6	5	60.6	4	100.5	88.99	775	6	2	WP 8A
NO 499	64.2	43.5	87	13	0	1.51	12.8	4	68.1	0.30	11.7	1	1	62.3	4	61.0	5	99.0	87.99	815	4	3	WP 8A
NO 500	62.0	37.6	77	23	0	1.55	13.1	2	66.6	0.31	12.0	1	1	61.9	3	60.7	2	98.5	90.99	845	4	3	WP 8A
NO 501	63.4	43.9	87	13	0	1.68	13.0	2	63.3	0.39	13.8	2	8	65.0	3	64.0	2	96.0	91.99	935	4	1	WP 8A
REO RIVER 68	64.4	39.5	66	34	0	1.63	14.5	1	68.0	0.35	13.5	1	2	66.3	6	65.0	2	97.0	85.99	960	8	1	WP 8A
S6662	64.2	44.4	84	16	0	1.55	13.7	2	67.3	0.32	12.6	1	1	63.5	3	62.2	5	100.6	91.99	885	2	4	WP 8A
1/ CLEAN CRY - SUBTRACT 1 LB./BU. FOR COCKAGE-FREE T.W.																							
2/ 14% MOISTURE BASIS.																							
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-QUESTIONABLE, 4 = QUESTIONABLE, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY, 8 = UNSATISFACTORY.																							
4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.																							
5/ REFER TO REFERENCE MICROGRAPHS FOR NUMERICAL CURVE PATTERNS. (1 = VERY WEAK, 2 = WEAK, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-P LIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY WEAK, 30 = CEAO.																							
6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-P LIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY WEAK, 30 = CEAO.																							
7/ XXX.9 = BRIGHT WHITE, XXX.8 = WHITE, XXX.7 = SLIGHTLY CREAMY, XXX.6 = BRIGHT CREAMY, XXX.5 = CREAMY, XXX.4 = VERY CREAMY, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY, XXX.0 = CEAO.																							
8/ XXX.00 = SOGGY, XXX.01 = THICK WALL OR HARSH, XXX.02 = CLOSE, XXX.03 = OPEN, XXX.04 = SLIGHTLY OPEN, XXX.05 = OPEN, XXX.06 = OPEN, XXX.07 = IRREGULAR, XXX.08 = OPEN, XXX.09 = OPEN, XXX.10 = SLIGHTLY OPEN, XXX.11 = SLIGHTLY OPEN, XXX.12 = SLIGHTLY OPEN, XXX.13 = SLIGHTLY OPEN, XXX.14 = SLIGHTLY OPEN, XXX.15 = SLIGHTLY OPEN, XXX.16 = SLIGHTLY OPEN, XXX.17 = SLIGHTLY OPEN, XXX.18 = SLIGHTLY OPEN, XXX.19 = SLIGHTLY OPEN, XXX.20 = SLIGHTLY OPEN, XXX.21 = SLIGHTLY OPEN, XXX.22 = SLIGHTLY OPEN, XXX.23 = SLIGHTLY OPEN, XXX.24 = SLIGHTLY OPEN, XXX.25 = SLIGHTLY OPEN, XXX.26 = SLIGHTLY OPEN, XXX.27 = SLIGHTLY OPEN, XXX.28 = SLIGHTLY OPEN, XXX.29 = SLIGHTLY OPEN, XXX.30 = SLIGHTLY OPEN, XXX.31 = SLIGHTLY OPEN, XXX.32 = SLIGHTLY OPEN, XXX.33 = SLIGHTLY OPEN, XXX.34 = SLIGHTLY OPEN, XXX.35 = SLIGHTLY OPEN, XXX.36 = SLIGHTLY OPEN, XXX.37 = SLIGHTLY OPEN, XXX.38 = SLIGHTLY OPEN, XXX.39 = SLIGHTLY OPEN, XXX.40 = SLIGHTLY OPEN, XXX.41 = SLIGHTLY OPEN, XXX.42 = SLIGHTLY OPEN, XXX.43 = SLIGHTLY OPEN, XXX.44 = SLIGHTLY OPEN, XXX.45 = SLIGHTLY OPEN, XXX.46 = SLIGHTLY OPEN, XXX.47 = SLIGHTLY OPEN, XXX.48 = SLIGHTLY OPEN, XXX.49 = SLIGHTLY OPEN, XXX.50 = SLIGHTLY OPEN, XXX.51 = SLIGHTLY OPEN, XXX.52 = SLIGHTLY OPEN, XXX.53 = SLIGHTLY OPEN, XXX.54 = SLIGHTLY OPEN, XXX.55 = SLIGHTLY OPEN, XXX.56 = SLIGHTLY OPEN, XXX.57 = SLIGHTLY OPEN, XXX.58 = SLIGHTLY OPEN, XXX.59 = SLIGHTLY OPEN, XXX.60 = SLIGHTLY OPEN, XXX.61 = SLIGHTLY OPEN, XXX.62 = SLIGHTLY OPEN, XXX.63 = SLIGHTLY OPEN, XXX.64 = SLIGHTLY OPEN, XXX.65 = SLIGHTLY OPEN, XXX.66																							

TABLE 4
QUALITY DATA ON FIELD PLOT NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KWT.	KERNEL SIZE			WHT. MIN.	WHT. PRO.	KERN. CHAR.	ELR. EXT.	ELR. MIN.	FLR. 55EX.	FLR. PRO.	MLG. CHAR.	MLG. PER.	MIX. ABS.	MIX. PAT.	BAKE ABS.	BAKE TIME	OCUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	LC&F BAKE		GEN.	MINOR DEFICIENCY	MAJOR DEFICIENCY
			L	M	S																	VOL.	EVAL.			
DICKINSON, NORTH DAKOTA																										
BARTON	59.7	28.2	13	83	4	1.67	15.1	2	60.0	0.40	13.9	2	3	62.3	3	62.5	2.50	4	102.7	88.99	865	4	3	EX	OC	
BNANZA	60.6	25.2	4	91	5	1.61	14.2	5	63.4	0.39	13.4	2	2	62.3	5	62.4	4.00	4	103.8	91.99	860	4	3	WP	OC	
BOUNTY 208	61.4	24.7	3	92	5	1.63	13.5	2	63.6	0.37	13.0	2	2	61.3	6	61.1	4.25	4	100.0	90.99	870	4	3	LG	WP	OC
CHARIS	57.1	24.6	7	90	3	1.69	15.2	2	61.2	0.44	14.3	2	3	61.3	4	62.2	3.50	3	101.7	83.99	885	2	4			
ENTIRE	57.7	26.2	8	88	4	1.65	14.8	2	63.9	0.43	14.3	2	2	62.8	3	62.6	2.75	3	101.1	88.99	910	2	4			
ERA	60.6	25.9	7	87	6	1.57	13.3	8	63.0	0.41	12.4	2	2	59.7	5	60.4	4.25	4	100.0	89.99	855	6	1	8A	OC	WP
FLETCHER	59.9	30.0	22	75	3	1.64	14.6	3	63.1	0.41	13.5	2	2	62.3	4	62.1	3.25	3	101.7	89.99	860	3	4			OC
FORTUNA	60.7	32.2	18	78	4	1.58	14.6	3	67.0	0.38	13.7	1	1	63.7	3	60.2	3.00	5	101.7	90.99	880	6	3	8A		OC
JUSTIN	58.4	24.2	3	93	4	1.71	15.3	3	63.7	0.42	14.5	2	2	61.0	3	60.3	3.00	3	102.7	85.99	900	4	3	LG	8A	
MANITOU	58.6	24.4	4	91	5	1.73	15.4	3	62.5	0.43	14.4	2	3	59.0	3	59.1	3.00	5	102.5	83.99	870	8	1			8A OC
NEEPAWA	59.0	26.7	11	86	3	1.70	15.0	2	61.7	0.44	14.1	2	3	62.3	3	62.4	2.75	5	103.7	84.99	870	5	2			OC
PINKIRK	60.9	30.0	4	97	5	1.58	15.1	2	63.2	0.41	14.4	2	2	62.3	5	62.1	3.75	4	101.0	87.99	910	4	3			OC
TRATCHER	57.2	23.9	4	90	6	1.72	15.8	3	58.8	0.45	14.6	2	2	60.7	3	61.2	3.00	5	102.7	90.99	940	5	1	M65		EX OC
MALORON	57.8	30.1	32	66	2	1.73	15.3	2	61.9	0.43	14.3	2	3	60.7	4	61.2	3.50	4	100.0	85.99	880	4	3			OC
WS 1651-E	60.7	27.9	4	91	5	1.70	13.8	5	63.4	0.38	12.9	2	2	60.7	8	61.1	5.00	3	102.0	86.99	850	4	3	WP	MT	
WS 1809	60.7	28.4	14	82	4	1.66	16.4	2	61.9	0.41	15.1	2	2	63.8	4	63.9	3.00	3	103.7	88.99	915	2	4	LG	WM	EX
WS 1812	59.6	28.5	3	94	3	1.90	17.0	3	60.3	0.43	15.6	2	4	65.0	2	64.7	2.00	3	101.0	86.99	970	2	3			
WS 1877	61.6	26.2	4	92	4	1.69	14.5	3	63.4	0.36	13.6	2	1	61.0	7	61.2	4.00	3	101.0	85.99	855	3	4	KW	EX	
AB-67-70	59.9	22.5	6	86	6	1.65	14.9	3	60.2	0.43	13.4	2	4	62.8	6	63.1	4.25	5	101.5	85.99	875	5	2			OC
NO 491	59.0	30.9	40	57	3	1.73	14.5	3	61.3	0.40	13.4	2	2	61.6	5	61.8	3.50	4	102.5	87.99	885	4	3	OC		
NO 497	59.7	26.5	13	81	6	1.70	15.7	2	59.5	0.40	14.6	2	4	63.5	5	63.2	3.75	4	101.4	86.99	905	4	2	EX	OC	
NO 499	58.9	26.4	22	74	4	1.63	15.6	2	62.0	0.39	14.2	2	2	62.5	5	62.3	3.50	5	100.7	85.99	885	5	3			OC
NO 500	55.8	30.6	14	84	2	1.68	15.0	3	64.6	0.36	14.0	1	1	62.5	3	61.9	3.00	3	101.5	91.99	925	2	4	TW		
NO 502	59.4	23.9	2	92	6	1.64	15.6	3	59.1	0.44	14.4	2	2	64.2	5	64.0	3.00	3	100.4	91.99	970	1	3	LG		EX
S6662	59.0	31.3	26	71	3	1.62	16.0	2	64.4	0.36	15.3	1	1	61.6	3	61.4	2.75	4	101.0	85.99	910	4	3			OC
CLEAN ORY - SUBTRACT 1 LB./8BU. FOR OCKAGE-FREE T.W.																										

1/ CLEAN ORY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 100% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE MIXGRAMS FOR NUMERICAL CURVE PATTERNS. 11 = VERY WEAK, 12 = VERY WEAK, 13 = VERY WEAK, 14 = VERY WEAK, 15 = VERY WEAK, 16 = VERY WEAK, 17 = VERY WEAK, 18 = VERY WEAK, 19 = VERY WEAK, 20 = VERY WEAK, 21 = VERY WEAK, 22 = VERY WEAK, 23 = VERY WEAK, 24 = VERY WEAK, 25 = VERY WEAK, 26 = VERY WEAK, 27 = VERY WEAK, 28 = VERY WEAK, 29 = VERY WEAK, 30 = VERY WEAK, 31 = VERY WEAK, 32 = VERY WEAK, 33 = VERY WEAK, 34 = VERY WEAK, 35 = VERY WEAK, 36 = VERY WEAK, 37 = VERY WEAK, 38 = VERY WEAK, 39 = VERY WEAK, 40 = VERY WEAK, 41 = VERY WEAK, 42 = VERY WEAK, 43 = VERY WEAK, 44 = VERY WEAK, 45 = VERY WEAK, 46 = VERY WEAK, 47 = VERY WEAK, 48 = VERY WEAK, 49 = VERY WEAK, 50 = VERY WEAK, 51 = VERY WEAK, 52 = VERY WEAK, 53 = VERY WEAK, 54 = VERY WEAK, 55 = VERY WEAK, 56 = VERY WEAK, 57 = VERY WEAK, 58 = VERY WEAK, 59 = VERY WEAK, 60 = VERY WEAK, 61 = VERY WEAK, 62 = VERY WEAK, 63 = VERY WEAK, 64 = VERY WEAK, 65 = VERY WEAK, 66 = VERY WEAK, 67 = VERY WEAK, 68 = VERY WEAK, 69 = VERY WEAK, 70 = VERY WEAK, 71 = VERY WEAK, 72 = VERY WEAK, 73 = VERY WEAK, 74 = VERY WEAK, 75 = VERY WEAK, 76 = VERY WEAK, 77 = VERY WEAK, 78 = VERY WEAK, 79 = VERY WEAK, 80 = VERY WEAK, 81 = VERY WEAK, 82 = VERY WEAK, 83 = VERY WEAK, 84 = VERY WEAK, 85 = VERY WEAK, 86 = VERY WEAK, 87 = VERY WEAK, 88 = VERY WEAK, 89 = VERY WEAK, 90 = VERY WEAK, 91 = VERY WEAK, 92 = VERY WEAK, 93 = VERY WEAK, 94 = VERY WEAK, 95 = VERY WEAK, 96 = VERY WEAK, 97 = VERY WEAK, 98 = VERY WEAK, 99 = VERY WEAK, 100 = VERY WEAK.

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = ELASTIC-PLIABLE, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY OPEN, 30 = CEAD.

7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.

8/ XXX-00 = SOGGY, XXX-01 = THICK MALL OR HARSH, XXX-02 = CLOSE, XXX-03 = CLOSE, XXX-04 = CLOSE, XXX-05 = OPEN, XXX-06 = OPEN, XXX-07 = OPEN, XXX-08 = OPEN, XXX-09 = OPEN, XXX-10 = IRREGULAR, XXX-11 = IRREGULAR, XXX-12 = IRREGULAR, XXX-13 = IRREGULAR, XXX-14 = IRREGULAR, XXX-15 = IRREGULAR, XXX-16 = IRREGULAR, XXX-17 = IRREGULAR, XXX-18 = IRREGULAR, XXX-19 = IRREGULAR, XXX-20 = IRREGULAR, XXX-21 = IRREGULAR, XXX-22 = IRREGULAR, XXX-23 = IRREGULAR, XXX-24 = IRREGULAR, XXX-25 = IRREGULAR, XXX-26 = IRREGULAR, XXX-27 = IRREGULAR, XXX-28 = IRREGULAR, XXX-29 = IRREGULAR, XXX-30 = SLIGHTLY OPEN, XXX-31 = SLIGHTLY OPEN, XXX-32 = SLIGHTLY OPEN, XXX-33 = SLIGHTLY OPEN, XXX-34 = SLIGHTLY OPEN, XXX-35 = SLIGHTLY OPEN, XXX-36 = SLIGHTLY OPEN, XXX-37 = SLIGHTLY OPEN, XXX-38 = SLIGHTLY OPEN, XXX-39 = SLIGHTLY OPEN, XXX-40 = SLIGHTLY OPEN, XXX-41 = SLIGHTLY OPEN, XXX-42 = SLIGHTLY OPEN, XXX-43 = SLIGHTLY OPEN, XXX-44 = SLIGHTLY OPEN, XXX-45 = SLIGHTLY OPEN, XXX-46 = SLIGHTLY OPEN, XXX-47 = SLIGHTLY OPEN, XXX-48 = SLIGHTLY OPEN, XXX-49 = SLIGHTLY OPEN, XXX-50 = SLIGHTLY OPEN, XXX-51 = SLIGHTLY OPEN, XXX-52 = SLIGHTLY OPEN, XXX-53 = SLIGHTLY OPEN, XXX-54 = SLIGHTLY OPEN, XXX-55 = SLIGHTLY OPEN, XXX-56 = SLIGHTLY OPEN, XXX-57 = SLIGHTLY OPEN, XXX-58 = SLIGHTLY OPEN, XXX-59 = SLIGHTLY OPEN, XXX-60 = SLIGHTLY OPEN, XXX-61 = SLIGHTLY OPEN, XXX-62 = SLIGHTLY OPEN, XXX-63 = SLIGHTLY OPEN, XXX-64 = SLIGHTLY OPEN, XXX-65 = SLIGHTLY OPEN, XXX-66 = SLIGHTLY OPEN, XXX-67 = SLIGHTLY OPEN, XXX-68 = SLIGHTLY OPEN, XXX-69 = SLIGHTLY OPEN, XXX-70 = SLIGHTLY OPEN, XXX-71 = SLIGHTLY OPEN, XXX-72 = SLIGHTLY OPEN, XXX-73 = SLIGHTLY OPEN, XXX-74 = SLIGHTLY OPEN, XXX-75 = SLIGHTLY OPEN, XXX-76 = SLIGHTLY OPEN, XXX-77 = SLIGHTLY OPEN, XXX-78 = SLIGHTLY OPEN, XXX-79 = SLIGHTLY OPEN, XXX-80 = SLIGHTLY OPEN, XXX-81 = SLIGHTLY OPEN, XXX-82 = SLIGHTLY OPEN, XXX-83 = SLIGHTLY OPEN, XXX-84 = SLIGHTLY OPEN, XXX-85 = SLIGHTLY OPEN, XXX-86 = SLIGHTLY OPEN, XXX-87 = SLIGHTLY OPEN, XXX-88 = SLIGHTLY OPEN, XXX-89 = SLIGHTLY OPEN, XXX-90 = SLIGHTLY OPEN, XXX-91 = SLIGHTLY OPEN, XXX-92 = SLIGHTLY OPEN, XXX-93 = SLIGHTLY OPEN, XXX-94 = SLIGHTLY OPEN, XXX-95 = SLIGHTLY OPEN, XXX-96 = SLIGHTLY OPEN, XXX-97 = SLIGHTLY OPEN, XXX-98 = SLIGHTLY OPEN, XXX-99 = SLIGHTLY OPEN, XXX-100 = SLIGHTLY OPEN.

9/ 1 = NC PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KRNLS			WHT. MIN.	WHT. MED	WHT. MAX	KRN. CHAS.	KRN. EXT.	FLR. MIN.	FLR. PRO.	MLC. PER.	MLC. ABS.	MIX. PAT.	MIX. ABS.	BAKE RES.	MIX. TIME	OCUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	VOL. CC.	BAKE EVAL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY
		G.	1	2																					
STATE AVERAGES FOR NORTH DAKOTA																									
CHRIS	61.7	31.5	44	55	1	1.50	14.4	2	63.4	0.36	13.5	2	3	62.6	3	62.7	2.91	4	99.1	88.98	868	2	4		
JUSTIN	61.6	33.8	54	44	2	1.61	14.3	2	65.1	0.36	13.6	2	2	62.4	3	61.9	3.00	4	101.5	86.32	873	2	4		
SELKIRK	60.8	34.8	49	49	2	1.65	13.9	2	65.6	0.37	13.1	1	3	61.8	3	61.6	2.83	5	99.9	91.32	873	3	3		
CROP YEAR AVERAGES																									
1970 AVERAGE	60.7	29.9	29	69	2	1.68	15.5	3	67.3	0.37	14.7	1	2	63.9	4	63.0	3.75	3	101.7	88.29	970	2	4		
1971 AVERAGE	61.4	33.4	49	49	2	1.59	14.2	3	64.7	0.36	13.4	2	3	62.3	3	62.0	2.91	4	100.1	89.54	868	3	3		
1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.																									
2/ 14% MOISTURE BASIS.																									
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.																									
4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = WEAK, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.																									
5/ REFERENCE VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = ELASTIC, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.																									
6/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.																									
7/ XXX-00 = SOGGY, XXX-01 = THICK WALL OR FASH, XXX-03 = CLOSE, XXX-05 = OPEN, IRREGULAR, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR, XXX-09 = OPEN, XXX-10 = IRREGULAR, XXX-30 = SLIGHTLY OPEN, IRREGULAR.																									
8/ XXX-50 = SLIGHTLY IRREGULAR-OPEN, XXX-70 = SLIGHTLY OPEN, XXX-90 = SLIGHTLY IRREGULAR, XXX-99 = NORMAL.																									
9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.																									

1/ CLEAN GRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = UNSATISFACTORY-UNSATISFACTORY, 7 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SCFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE MIXOGRAMS FOR NUMERICAL CURVE PATTERNS. (1 = VERY WEAK --- II = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX.00 = BRIGHT WHITE, XXX.10 = SLIGHTLY WHITE, XXX.20 = SLIGHTLY GRAY, XXX.30 = DULL GRAY, XXX.40 = DULL GRAY, XXX.50 = DULL GRAY, XXX.60 = DULL GRAY, XXX.70 = DULL GRAY, XXX.80 = DULL GRAY, XXX.90 = DULL GRAY.

8/ XXX.00 = SLIGHTLY IRREGULAR, XXX.10 = SLIGHTLY IRREGULAR, XXX.20 = SLIGHTLY IRREGULAR, XXX.30 = SLIGHTLY IRREGULAR, XXX.40 = SLIGHTLY IRREGULAR, XXX.50 = SLIGHTLY IRREGULAR, XXX.60 = SLIGHTLY IRREGULAR, XXX.70 = SLIGHTLY IRREGULAR, XXX.80 = SLIGHTLY IRREGULAR, XXX.90 = SLIGHTLY IRREGULAR.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SCHE PROMISE, 4 = GOOD PROMISE.

TABLE 6

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KWT.	G.	KERNEL SIZE				WHT. MIN.	WHT. PRO.	KERN. CHAR.	FLR. EXT.	MIN.-a 65EX.	FLR. PRO.	MLG. CHAR.	MLG. PER.	MIX. ABS.	MIX. PAT.	BAKE ABS.	MIX. TIME	DOUGH CHAR.	CRUM8 COLOR	CRUM8 GRAIN	LOAF VOL.	BAKE EVAL.	GEN.	MAJOR DEFICIENCY	
				L	M	S	M																				3/
TETONIA, IOAHO																											
ROMANZA	58.0	28.0	6	89	5	1.33	15.2	3	60.6	0.44	14.7	1	5	61.6	5	61.6	5	61.6	4.25	5	100.8	96.99	190	3	3	KW	M65 MT
BOUNTY 208	60.5	27.1	7	91	2	1.30	15.3	2	60.9	0.38	14.8	1	3	61.9	6	61.9	6	61.9	4.75	5	103.0	95.99	192	3	4	KW	MT
CHRIS	58.0	25.9	4	93	3	1.36	15.8	3	63.0	0.40	15.5	1	2	62.8	3	62.8	3	62.8	3.00	5	100.5	96.99	192	2	4	KW	LG
ERA	61.5	29.3	22	75	3	1.31	13.8	5	63.6	0.40	13.1	1	2	59.7	4	59.7	4	59.7	3.50	5	100.7	93.99	184	8	1	KW	BA
FLETCHER	60.0	33.9	39	59	2	1.43	15.3	2	61.2	0.44	14.4	1	5	62.5	3	62.5	3	62.5	2.50	5	101.5	94.99	187	2	3	M65	
JUSTIN	60.5	27.8	8	99	3	1.37	15.3	2	60.5	0.41	14.7	1	3	61.9	3	61.9	3	61.9	2.50	4	100.0	91.99	192	2	4	KW	
NEERQUIS	57.0	30.4	20	97	3	1.46	15.9	3	63.0	0.40	15.6	1	2	64.2	4	64.2	4	64.2	3.00	5	98.0	92.99	188	2	4	WM	M65 BA
SELKIRK	54.5	28.1	9	87	4	1.39	15.3	3	62.7	0.42	15.8	2	2	61.9	2	61.9	2	61.9	1.75	5	99.0	90.99	182	5	1	KW	
WALDRON	57.0	30.0	21	76	3	1.37	15.8	3	64.6	0.41	15.1	1	2	62.5	5	62.5	5	62.5	2.25	3	100.7	89.99	200	4	3	OO	
MS 1651-E	60.0	26.5	4	92	4	1.33	15.0	3	60.7	0.40	14.5	1	3	60.7	8	60.7	8	60.7	5.00	5	101.0	90.99	185	6	2	KW	LG BA MT
MS 1809	57.5	37.7	11	84	5	1.26	14.4	5	64.2	0.41	13.6	1	2	60.3	4	60.3	4	60.3	4.00	5	101.5	90.99	180	6	2	WP	BA MT
NO 491	58.5	33.1	38	61	1	1.38	15.4	2	63.4	0.39	14.4	1	2	62.5	4	62.5	4	62.5	3.50	4	99.8	89.99	208	2	4	EX	MT
NO 497	60.0	34.4	33	66	1	1.40	15.0	2	60.0	0.38	13.9	1	3	62.3	5	62.3	5	62.3	4.00	5	101.0	89.99	194	4	3	EX	MT
NO 499	59.0	34.0	49	48	3	1.37	15.0	2	62.5	0.38	13.8	1	2	61.0	2	61.0	2	61.0	2.50	5	99.0	91.99	188	4	3	PO	BA
NO 501	57.0	31.2	30	67	3	1.43	15.9	2	61.7	0.45	15.5	1	5	63.8	4	63.8	4	63.8	3.25	4	99.9	88.00	205	2	3		M65
NO 506	59.5	30.6	29	69	2	1.39	15.4	2	62.0	0.40	14.8	1	2	61.9	4	61.9	4	61.9	3.75	3	100.8	86.99	222	4	3	OO	
NK 7014	58.5	30.4	9	88	3	1.31	15.3	2	63.9	0.42	15.0	1	2	64.2	11	64.2	11	64.2	11.25	3	105.9	86.99	220	8	1	DO	MT
WISC 271	57.0	27.6	5	89	6	1.29	14.2	6	63.7	0.40	13.5	1	2	60.0	5	60.0	5	60.0	4.00	5	100.5	89.99	185	6	2	KW	MT
WISC H678-1-6-3	56.5	28.7	12	85	3	1.29	14.8	4	62.8	0.36	13.8	1	2	62.8	5	62.8	5	62.8	4.50	4	100.1	85.99	205	4	3	KW	MT

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 100% SATISFACTORY.

4/ 1 = NORMAL.

5/ 2 = QUESTIONABLE.

6/ 3 = UNSATISFACTORY.

7/ 4 = QUESTIONABLE.

8/ 5 = QUESTIONABLE.

9/ 6 = QUESTIONABLE.

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167/ 164 = QUESTIONABLE.

168/ 165 = QUESTIONABLE.

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1/ CLEAN DRY - SURFACT 1 LB./BU. FOR DOCKAGE-FREE T.W.
1.4Z MOISTURE BASIS.
2/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.
4/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.
5/ REFER TO REFERENCE MIXTURES.
6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.
7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = DULL GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.
8/ XXX-50 = SLIGHTLY IRREGULAR, XXX-49 = SLIGHTLY IRREGULAR, XXX-48 = SLIGHTLY IRREGULAR, XXX-47 = SLIGHTLY IRREGULAR, XXX-46 = SLIGHTLY IRREGULAR, XXX-45 = SLIGHTLY IRREGULAR, XXX-44 = SLIGHTLY IRREGULAR, XXX-43 = SLIGHTLY IRREGULAR, XXX-42 = SLIGHTLY IRREGULAR, XXX-41 = SLIGHTLY IRREGULAR, XXX-40 = SLIGHTLY IRREGULAR, XXX-39 = SLIGHTLY IRREGULAR, XXX-38 = SLIGHTLY IRREGULAR, XXX-37 = SLIGHTLY IRREGULAR, XXX-36 = SLIGHTLY IRREGULAR, XXX-35 = SLIGHTLY IRREGULAR, XXX-34 = SLIGHTLY IRREGULAR, XXX-33 = SLIGHTLY IRREGULAR, XXX-32 = SLIGHTLY IRREGULAR, XXX-31 = SLIGHTLY IRREGULAR, XXX-30 = SLIGHTLY IRREGULAR, XXX-29 = SLIGHTLY IRREGULAR, XXX-28 = SLIGHTLY IRREGULAR, XXX-27 = SLIGHTLY IRREGULAR, XXX-26 = SLIGHTLY IRREGULAR, XXX-25 = SLIGHTLY IRREGULAR, XXX-24 = SLIGHTLY IRREGULAR, XXX-23 = SLIGHTLY IRREGULAR, XXX-22 = SLIGHTLY IRREGULAR, XXX-21 = SLIGHTLY IRREGULAR, XXX-20 = SLIGHTLY IRREGULAR, XXX-19 = SLIGHTLY IRREGULAR, XXX-18 = SLIGHTLY IRREGULAR, XXX-17 = SLIGHTLY IRREGULAR, XXX-16 = SLIGHTLY IRREGULAR, XXX-15 = SLIGHTLY IRREGULAR, XXX-14 = SLIGHTLY IRREGULAR, XXX-13 = SLIGHTLY IRREGULAR, XXX-12 = SLIGHTLY IRREGULAR, XXX-11 = SLIGHTLY IRREGULAR, XXX-10 = SLIGHTLY IRREGULAR, XXX-9 = SLIGHTLY IRREGULAR, XXX-8 = SLIGHTLY IRREGULAR, XXX-7 = SLIGHTLY IRREGULAR, XXX-6 = SLIGHTLY IRREGULAR, XXX-5 = SLIGHTLY IRREGULAR, XXX-4 = SLIGHTLY IRREGULAR, XXX-3 = SLIGHTLY IRREGULAR, XXX-2 = SLIGHTLY IRREGULAR, XXX-1 = SLIGHTLY IRREGULAR.
9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 8

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KWT.	KERNEL SIZE			WHT. MIN.	WHT. PRO.	KERN. CHAR.	FLR. EXT.	FLR. MIN.	FLR. PRO.	MLG. CHAR.	MLG. PRO.	MIX. ABS.	MIX. PAT.	BAKE ABS.	TIME	DOUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	LCAF			BAKE EVAL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY		
			LG	MED	SM																CC.	37.	37.					37.	
ST. PAUL, MINNESOTA																													
BONANZA	58.0	22.9	2	87	11	1.98	14.6	6	58.2	0.56	14.2	2	6	61.3	5	61.3	4-50	4	99.0	92.99	188	5	1	TM	KW	WP	8A	MT	LG SM M65
BOUNTY 208	61.5	28.0	13	84	3	1.90	15.0	7	56.5	0.52	12.8	2	6	61.9	3	61.9	2.75	4	102.8	91.99	186	2	3	TM	KW	MT			LG WP 8A
CHRIS	61.5	28.0	13	84	3	1.90	15.0	7	56.5	0.52	12.8	2	6	61.9	3	61.9	2.75	4	101.0	93.99	194	2	3	KW	LG				EX
ERA	61.5	31.2	35	62	3	1.79	13.3	8	61.4	0.47	12.4	1	2	59.7	3	59.7	3.00	4	101.7	91.99	187	8	1						WP 8A
FLETCHER	61.0	32.4	35	62	3	1.99	13.6	5	61.8	0.50	13.2	1	2	62.3	2	62.3	2.75	4	100.0	90.99	200	2	4						WP
JUSTIN	60.0	32.1	47	51	2	1.98	16.3	2	61.6	0.47	15.9	1	1	64.4	4	64.4	3.75	3	99.0	90.99	194	4	3						DO
MARQUIS	62.5	27.9	10	87	3	2.00	13.8	6	58.2	0.57	13.5	2	8	61.3	3	61.3	3.50	4	100.0	91.99	189	4	1	KW	8A				LG WP M65
NEEPAWA	60.5	28.3	12	85	3	1.92	14.4	5	58.1	0.55	14.2	2	5	61.9	2	61.9	2.50	3	100.0	91.99	191	4	2	LG	WP	M65	00		
SELKIRK	57.0	31.4	27	59	4	2.09	14.8	5	63.2	0.53	14.3	1	3	61.5	2	61.5	2.25	5	101.5	90.99	184	6	2	TM	M65	8A	00		
MALON	61.2	32.3	40	57	3	1.91	15.0	2	64.3	0.49	14.2	1	2	61.3	2	61.3	2.25	5	100.0	92.99	189	6	2						8A 00
MS 1651-E	58.5	23.9	3	87	10	1.94	13.6	8	58.7	0.51	13.3	2	3	60.0	5	60.0	5.00	4	99.0	91.99	189	8	1	KW	MT				LG SM WP 8A
MS 1809	61.1	30.4	32	65	3	1.75	14.3	4	64.2	0.47	13.2	1	1	61.3	3	61.3	3.00	6	98.0	91.99	180	7	2	WP	8A				DO
NO 491	61.0	34.8	54	43	3	1.94	15.1	2	60.3	0.45	14.0	1	2	61.9	2	61.9	2.25	4	101.0	89.99	198	2	4						8A 00
NO 497	60.5	33.6	46	51	3	1.96	14.9	2	58.9	0.42	14.4	1	2	61.0	3	61.0	3.25	3	100.0	87.99	195	6	2						8A 00
NO 499	61.5	37.2	59	38	3	1.83	14.4	4	62.8	0.40	13.3	1	1	61.0	2	61.0	2.75	4	100.0	88.99	188	4	3	WP	8A				WP 8A
NO 501	59.5	35.0	43	53	4	1.90	14.9	2	59.1	0.54	13.8	2	4	61.9	2	61.9	2.25	5	100.5	91.99	189	4	2	M65	DO				DO
NO 506	61.0	33.2	11	63	6	1.94	14.8	3	60.6	0.46	13.3	1	2	61.6	2	61.6	5.00	3	101.0	87.99	195	6	1	SM	8A				DO
NK 7014	59.2	31.2	11	63	6	1.86	13.2	8	63.0	0.47	12.2	2	1	60.7	4	60.7	3.50	4	100.0	90.99	194	8	1	LV	WP				DO
WIC 271	59.5	35.1	35	61	4	1.83	12.9	6	62.0	0.41	12.2	1	1	59.3	3	59.3	3.50	4	101.5	90.99	176	8	1	8A	WP				DO
MISC 1678-1-6-9-5-8	59.8	35.2	46	50	4	1.87	13.5	5	62.0	0.40	12.6	1	1	61.0	4	61.0	3.50	4	100.0	90.99	193	4	3	8A	WP				DO

1/ CLEAN GRAY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 1% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE MIXOGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK --- 11 = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX.9 = BRIGHT WHITE, XXX.8 = SLIGHTLY WHITE, XXX.7 = SLIGHTLY GREY, XXX.6 = BRIGHT GREY, XXX.5 = CREAM, XXX.4 = VERY CREAM, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY.

8/ XXX.50 = SLIGHTLY IRREGULAR, OPEN, XXX.49 = SLIGHTLY IRREGULAR, OPEN, XXX.48 = SLIGHTLY IRREGULAR, OPEN, XXX.47 = SLIGHTLY IRREGULAR, OPEN, XXX.46 = SLIGHTLY IRREGULAR, OPEN, XXX.45 = SLIGHTLY IRREGULAR, OPEN, XXX.44 = SLIGHTLY IRREGULAR, OPEN, XXX.43 = SLIGHTLY IRREGULAR, OPEN, XXX.42 = SLIGHTLY IRREGULAR, OPEN, XXX.41 = SLIGHTLY IRREGULAR, OPEN, XXX.40 = SLIGHTLY IRREGULAR, OPEN, XXX.39 = SLIGHTLY IRREGULAR, OPEN, XXX.38 = SLIGHTLY IRREGULAR, OPEN, XXX.37 = SLIGHTLY IRREGULAR, OPEN, XXX.36 = SLIGHTLY IRREGULAR, OPEN, XXX.35 = SLIGHTLY IRREGULAR, OPEN, XXX.34 = SLIGHTLY IRREGULAR, OPEN, XXX.33 = SLIGHTLY IRREGULAR, OPEN, XXX.32 = SLIGHTLY IRREGULAR, OPEN, XXX.31 = SLIGHTLY IRREGULAR, OPEN, XXX.30 = SLIGHTLY OPEN, IRREGULAR.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KWT.	KERNEL SIZE LG MED SM	WHT. MIN.	WHT. PRA.	WHT. MAX.	KERN. CHAR.	FLR. EXT.	FLR. MIN.	FLR. PRO.	MLG. PER.	MIX. ABS.	MIX. PAT.	BAKE ABS.	MIX. TIME	ROUGH CHAR.	CRUM8 COLOR	CRUM8 GRAIN	LOAF BAKE VOL.	BAKE EVAL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY
																			CC.				
BOZEMAN, MONTANA																							
BONANZA	61.0	32.3	20	76	4	1.40	14.7	5	59.6	0.44	14.0	1	6	61.9	3	3.00	6	100.0	93.99	182	4	2	LG WP EX M65 DO
BONANZA	61.5	31.9	34	63	3	1.46	15.4	2	61.3	0.41	14.6	1	3	62.3	3	2.75	4	99.0	92.99	204	2	4	LG WP EX M65 DO
CHRIS 208	60.5	28.9	20	76	4	1.45	15.9	3	60.8	0.43	15.1	1	4	61.3	2	1.75	5	101.7	92.99	184	3	3	KW LG M65
ERA	61.5	31.2	30	66	4	1.32	13.1	8	61.5	0.42	15.2	1	3	59.3	2	2.25	4	100.7	90.99	179	8	1	WP 8A
FLETCHER	60.5	35.5	52	46	2	1.49	14.3	4	60.8	0.41	13.3	1	3	61.3	2	2.00	3	97.0	85.99	194	4	3	WP DO
JUSTIN	60.5	32.8	40	58	2	1.60	15.9	2	61.8	0.37	15.4	1	2	64.2	3	2.75	3	100.0	80.99	205	4	3	WM DO
MARQUIS	60.5	30.5	30	66	4	1.48	15.5	3	59.4	0.45	14.6	1	6	60.7	2	1.75	4	100.0	90.99	187	4	2	EX 8A DO
NEEPAWA	59.5	31.5	33	65	2	1.46	15.8	2	58.5	0.43	15.4	2	6	59.7	1	1.50	8	100.5	85.99	160	8	1	M65 LV
SEKIRK	58.0	35.2	41	55	4	1.43	15.0	4	64.5	0.42	14.6	1	2	61.0	2	1.75	5	98.0	90.99	189	4	3	TW 8A
WALDRON	60.0	36.1	55	41	4	1.50	15.6	2	62.9	0.42	14.6	1	3	61.0	2	2.00	4	98.0	89.99	208	4	3	8A
MS 1651-E	62.0	31.2	26	72	2	1.48	14.5	5	61.3	0.40	13.9	1	3	60.0	3	3.25	4	99.0	90.99	190	6	2	WP MT
MS 1809	61.0	32.6	42	54	4	1.44	14.5	5	62.7	0.41	13.6	1	3	60.0	2	2.25	5	99.0	92.99	187	5	2	WP
ND 491	60.6	37.6	66	32	2	1.42	15.0	3	62.4	0.40	14.2	1	2	59.7	1	1.75	6	99.0	93.99	185	8	1	WP LV
ND 497	62.0	36.6	50	42	2	1.44	14.5	4	61.1	0.38	13.4	1	1	59.7	3	3.00	4	100.0	92.99	176	8	1	WP
ND 499	60.5	37.7	55	37	8	1.43	13.6	8	64.2	0.37	12.9	1	1	60.3	2	2.25	6	100.0	92.99	183	6	1	SM 8A DO
ND 501	58.8	38.3	66	30	4	1.58	16.0	3	62.3	0.45	15.5	1	5	63.2	2	2.00	5	100.0	93.99	197	2	3	WM
ND 506	61.0	36.8	59	39	2	1.50	14.9	3	61.8	0.41	14.4	1	3	61.9	2	1.75	5	100.0	89.99	198	3	3	M65
NK 70Y14	60.5	36.8	41	57	2	1.45	14.7	4	65.7	0.41	14.4	1	2	63.2	4	4.25	3	102.8	89.99	204	8	1	WP DO
WISC 271	59.0	31.9	77	78	5	1.43	13.8	6	64.5	0.43	13.3	1	3	60.7	2	2.50	6	101.5	93.99	185	6	2	LG M65 8A DO
WISC H678-1-6-960.0	35.2	44	53	3	1.46	14.3	5	62.7	0.35	13.6	1	2	62.8	3	62.8	5	99.0	90.99	194	2	4	WP	
HAVRE, MONTANA																							
BONANZA	59.2	24.5	1	88	11	1.50	14.3	8	56.1	0.51	14.1	2	8	60.3	5	5.25	5	99.0	94.99	180	2	1	KW SM WM
BONANZA	61.5	28.6	6	90	4	1.41	14.6	3	56.3	0.52	14.1	2	8	61.6	7	5.25	4	99.0	88.99	198	2	1	LG
CHRIS 208	60.5	24.0	3	93	4	1.44	14.6	8	59.9	0.46	14.3	1	4	60.3	4	3.50	4	101.0	92.99	195	2	1	LG
ERA	60.0	26.9	4	88	8	2.32	12.7	8	58.9	1.59	12.1	1	8	57.0	5	5.00	5	100.7	90.99	180	8	1	KW SM EX
FLETCHER	60.0	29.8	18	77	5	1.47	14.1	2	62.9	0.50	13.6	1	4	60.7	4	3.50	4	99.5	93.99	190	2	3	M65
JUSTIN	60.0	33.9	22	75	3	1.43	14.9	2	63.1	0.42	14.7	1	1	62.8	5	3.75	5	100.0	91.99	183	2	4	KW LG
MARQUIS	61.0	27.5	8	89	3	1.43	14.9	3	62.9	0.44	14.7	1	1	60.7	3	3.00	4	100.0	91.99	196	2	4	8A
NEEPAWA	59.5	28.2	10	88	2	1.38	14.9	3	61.7	0.42	14.6	1	2	59.7	3	3.00	5	100.0	90.99	185	4	3	M65 8A
SEKIRK	58.5	32.9	11	95	4	1.37	13.8	6	62.4	0.49	13.5	1	2	58.7	3	3.50	5	100.0	91.99	186	4	2	M65
WALDRON	59.5	32.3	21	77	2	1.46	15.0	2	62.0	0.45	14.8	1	2	61.6	5	4.25	4	99.0	91.99	205	2	4	M65
WS 1651-E	60.0	25.4	2	87	11	1.49	14.3	8	54.0	0.52	13.8	2	8	60.0	9	6.50	5	98.0	91.99	182	4	1	KW SM MT
WS 1809	61.5	28.0	9	83	8	1.43	14.6	3	58.7	0.48	13.9	1	6	60.3	4	3.75	4	100.7	91.99	189	2	3	SM EX M65
ND 491	60.0	32.6	30	68	2	1.46	13.8	3	59.1	0.44	13.5	1	3	61.3	6	5.00	5	100.8	85.99	195	2	4	EX
ND 497	59.5	30.0	6	89	5	1.46	14.4	3	59.8	0.44	13.8	1	3	61.9	8	6.00	5	100.0	91.99	198	3	3	LG MT
ND 499	59.5	29.5	14	79	7	1.47	14.0	3	61.5	0.42	13.5	1	2	61.6	5	4.25	4	100.0	88.99	192	2	4	SM
ND 501	59.5	34.2	27	69	4	1.53	15.0	3	57.4	0.52	14.7	2	8	63.5	4	3.50	4	100.0	91.99	199	2	1	WM
ND 506	60.5	34.5	33	64	3	1.45	13.8	3	58.9	0.44	13.5	1	3	61.6	6	4.50	4	100.0	90.99	202	2	4	EX WP DO
WISC 271	59.5	31.2	2	89	10	1.39	13.9	5	57.5	0.47	13.4	2	8	63.5	11	6.75	3	101.7	89.99	198	4	1	KW SM M65 MT
WISC H678-1-6-990.0	27.9	5	89	6	1.45	14.5	4	59.8	0.45	14.2	1	3	64.2	8	64.2	3	98.0	92.99	214	5	2	KW LG MT DO	
CLEAN ORY - SUBTRACT 1 LB./8BU. FOR DOCKAGE-FREE T.W.																							

1/ CLEAN ORY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE MIXOGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK, 11 = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX.9 = BRIGHT WHITE, XXX.8 = WHITE, XXX.7 = SLIGHTLY CREAMY, XXX.6 = BRIGHT CREAMY, XXX.5 = CREAMY, XXX.4 = VERY CREAMY, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY, XXX.0 = SLIGHTLY OPEN, IRREGULAR.

8/ XXX.50 = SLIGHTLY IRREGULAR OPEN, XXX.40 = SLIGHTLY OPEN, XXX.30 = SLIGHTLY OPEN, IRREGULAR.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

10/ Inseparable stones in wheat

TABLE 10
QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	ICC C.	KERNEL SIZE LG MED SM	W.T. %	W.T. %	KERN. %	FLR. %	EXT. CHL. %	FLR. MIN. A %	FLR. MIN. B %	FLR. MIN. C %	MLG. %	MIX. PAT. %	MIX. PAT. %	AB5. PAT. %	BAKE %	PIX. %	OCUGH CRUMB %	CRUMB %	GRAIN %	LCF8 %	BAKE %	GEN. %	MINOR DEFICIENCY		MAJOR DEFICIENCY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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HONANZA	54.5	20.2	0	49	31	1.82	16.4	8	58.2	0.59	16.4	1	8	63.2	8	63.2	4	98.5	85.99	185	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE WIGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK, 11 = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY WEAK, 30 = DEAD.

7/ XXX.9 = BRIGHT WHITE, XXX.8 = WHITE, XXX.7 = SLIGHTLY CREAMY, XXX.6 = BRIGHT CREAMY, XXX.5 = CREAMY, XXX.4 = VERY CREAMY, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY.

8/ XXX.00 = SUGGY, XXX.01 = THICK WALL OR HAZY, XXX.03 = CLOSE, XXX.05 = OPEN, XXX.06 = OPEN, XXX.07 = IRREGULAR, XXX.08 = OPEN, XXX.09 = OPEN, XXX.10 = IRREGULAR, XXX.20 = SLIGHTLY OPEN, XXX.30 = SLIGHTLY OPEN, XXX.40 = SLIGHTLY OPEN, XXX.50 = SLIGHTLY OPEN, XXX.60 = SLIGHTLY OPEN, XXX.70 = SLIGHTLY OPEN, XXX.80 = SLIGHTLY OPEN, XXX.90 = SLIGHTLY OPEN, XXX.99 = NORMAL.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 11

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CHOP

VARIETY OR SEL. NO.	T.W. #780.	ICC	KESEL-SIZE LO MED SH	HAT. 27	HAT. 27	KRA. 27	ELR. 27	MIN. 27	FLR. 27	MLG. 27	MIX. 27	MIX. 27	BAKE 27	MIX. 27	OCUGH 27	CRUMB 27	CRUMB 27	LCAR 27	GEN. 27	MAJOR DEFICIENCY
IRRIGATED - CARRINGTON, NORTH DAKOTA																				
BONANZA	63.5	39.7	59	40	1	1.48	12.6	3	63.4	0.47	12.2	1	2	61.6	3	61.6	3	61.6	3	4
BONANZA	64.0	39.0	64	35	1	1.55	12.7	3	62.3	0.43	11.9	1	1	61.0	4	61.0	4	61.0	4	3
CHRIS	65.0	36.1	66	33	1	1.57	12.7	3	58.5	0.45	12.3	2	2	60.7	2	60.7	2	60.7	2	3
ERA	60.0	35.2	62	37	1	1.59	12.3	5	62.9	0.46	11.5	1	2	59.7	4	59.7	4	59.7	4	3
FLETCHER	64.0	41.7	74	25	1	1.46	13.1	2	61.7	0.43	12.1	1	1	61.3	2	61.3	2	61.3	2	4
JUSTIN	62.5	42.4	78	21	1	1.69	14.0	2	59.4	0.44	13.2	2	2	63.2	3	63.2	3	63.2	3	3
MARQUIS	63.5	34.5	63	38	2	1.59	15.2	3	61.2	0.45	14.1	1	2	63.5	2	63.5	2	63.5	2	3
NEEDPA	63.5	38.3	73	26	1	1.56	14.6	2	60.6	0.45	14.1	1	2	63.5	2	63.5	2	63.5	2	3
SELKIRK	62.8	44.4	35	63	2	1.76	12.9	3	59.2	0.50	12.3	1	4	61.3	2	61.3	2	61.3	2	3
MALORON	62.0	41.5	39	60	1	1.64	13.3	3	59.6	0.48	12.5	2	3	62.3	3	62.3	3	62.3	3	3
MS 1651-E	62.7	34.0	47	51	2	1.54	12.6	5	56.3	0.49	11.8	2	5	61.3	4	61.3	4	61.3	4	3
MS 1809	62.8	36.4	67	31	2	1.54	12.6	4	60.3	0.44	11.6	1	1	60.7	3	60.7	3	60.7	3	3
NO 491	62.3	42.4	67	31	2	1.66	13.7	1	59.1	0.47	12.8	1	3	61.9	3	61.9	3	61.9	3	3
NO 499	63.0	41.7	76	23	1	1.58	13.7	2	62.0	0.46	12.8	1	2	61.9	4	61.9	4	61.9	4	3
NE 501	63.0	44.4	77	21	2	1.58	14.6	2	57.7	0.50	13.7	2	5	63.8	3	63.8	3	63.8	3	3
NC 506	63.0	39.7	76	22	2	1.63	12.5	4	57.9	0.47	11.7	2	3	61.0	2	61.0	2	61.0	2	3
NK 7014	64.0	40.8	70	29	1	1.54	12.5	4	60.4	0.43	11.5	1	1	61.9	6	61.9	6	61.9	6	3
MISC 271	63.5	39.8	72	27	1	1.53	12.3	4	60.4	0.43	11.7	1	1	60.7	4	60.7	4	60.7	4	3
MISC 6678-1-6-9 63.0	39.5	76	23	1	1.55	13.8	2	60.0	0.41	13.1	2	1	64.2	5	64.2	5	64.2	5	3	
OICKINSON, NORTH DAKOTA																				
BONANZA	61.0	27.8	3	94	3	1.44	14.4	8	69.0	0.50	13.9	1	3	62.5	3	62.5	3	62.5	3	1
BONANZA	62.0	26.6	6	90	4	1.50	14.4	8	68.3	0.50	13.8	1	3	62.8	3	62.8	3	62.8	3	1
CHRIS	61.0	27.6	28	71	1	1.44	14.8	2	66.5	0.48	14.7	1	2	61.3	2	61.3	2	61.3	2	3
ERA	60.5	25.7	15	78	3	1.48	12.8	8	70.0	0.52	12.4	1	4	60.7	3	60.7	3	60.7	3	3
FLETCHER	59.5	29.8	29	70	1	1.48	13.6	6	66.9	0.50	13.2	1	3	61.6	3	61.6	3	61.6	3	2
JUSTIN	60.5	30.5	6	94	0	1.54	16.4	3	62.5	0.47	15.0	1	4	64.7	5	64.7	5	64.7	5	2
MARQUIS	60.0	31.4	44	55	1	1.44	14.6	4	68.8	0.49	14.4	1	2	62.8	3	62.8	3	62.8	3	2
NEEDPA	59.5	28.7	24	75	1	1.59	14.9	4	67.1	0.49	14.6	1	2	61.6	2	61.6	2	61.6	2	3
SELKIRK	59.5	28.0	17	55	1	1.44	14.5	4	66.8	0.48	14.1	1	2	62.3	3	62.3	3	62.3	3	2
MALORON	62.0	31.8	16	84	0	1.42	14.8	2	67.8	0.47	14.2	1	2	62.3	3	62.3	3	62.3	3	2
MS 1651-E	60.5	24.6	1	93	6	1.56	14.0	8	66.3	0.51	13.4	1	3	61.6	5	61.6	5	61.6	5	2
MS 1809	61.5	27.0	32	66	2	1.38	14.6	4	70.2	0.47	13.9	1	2	61.9	3	61.9	3	61.9	3	2
NO 491	61.0	32.3	15	84	1	1.50	14.3	5	65.4	0.49	14.0	1	3	60.7	3	60.7	3	60.7	3	2
NO 497	60.5	31.4	30	68	2	1.43	14.7	4	66.7	0.45	14.0	1	1	62.5	5	62.5	5	62.5	5	2
NO 499	60.5	30.8	43	55	2	1.48	14.5	4	68.8	0.53	13.6	1	8	61.3	4	61.3	4	61.3	4	2
NO 501	62.0	32.4	48	51	1	1.54	15.1	2	68.6	0.53	14.8	1	8	63.8	4	63.8	4	63.8	4	2
NK 7014	62.5	25.7	6	51	3	1.43	14.0	6	70.6	0.47	13.9	1	2	61.3	3	61.3	3	61.3	3	2
MISC 271	60.5	26.9	5	91	4	1.49	14.4	8	69.6	0.47	13.2	1	2	62.3	6	62.3	6	62.3	6	2
MISC 6678-1-6-9 60.5	28.2	11	87	2	1.51	14.5	5	67.3	0.45	14.3	1	1	63.8	6	63.8	6	63.8	6	2	
1/ CLEAN ORY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.																				
1/ 14% MOISTURE BASIS.																				
2/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE, 4 = QUESTIONABLE-UNSATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.																				
3/ 1 = NORMAL, 2 = NORMAL-CRIT, 3 = CRIT, 4 = CRIT, 5 = CRIT, 6 = CRIT.																				
4/ 1 = NORMAL, 2 = NORMAL-CRIT, 3 = CRIT, 4 = CRIT, 5 = CRIT, 6 = CRIT.																				
5/ REFER TO REFERENCE PICTOGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK, 2 = WEAK, 3 = WEAK-PLIABLE, 4 = PLIABLE, 5 = PLIABLE-WEAK, 6 = WEAK-PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.																				
6/ XXX BACKWRIGHT VENTURE ELASTIC, 5 = ELASTIC, 6 = ELASTIC, 7 = ELASTIC, 8 = ELASTIC, 9 = ELASTIC, 10 = ELASTIC, 11 = ELASTIC, 12 = ELASTIC, 13 = ELASTIC, 14 = ELASTIC, 15 = ELASTIC, 16 = ELASTIC, 17 = ELASTIC, 18 = ELASTIC, 19 = ELASTIC, 20 = ELASTIC, 21 = ELASTIC, 22 = ELASTIC, 23 = ELASTIC, 24 = ELASTIC, 25 = ELASTIC, 26 = ELASTIC, 27 = ELASTIC, 28 = ELASTIC, 29 = ELASTIC, 30 = ELASTIC, 31 = ELASTIC, 32 = ELASTIC, 33 = ELASTIC, 34 = ELASTIC, 35 = ELASTIC, 36 = ELASTIC, 37 = ELASTIC, 38 = ELASTIC, 39 = ELASTIC, 40 = ELASTIC, 41 = ELASTIC, 42 = ELASTIC, 43 = ELASTIC, 44 = ELASTIC, 45 = ELASTIC, 46 = ELASTIC, 47 = ELASTIC, 48 = ELASTIC, 49 = ELASTIC, 50 = ELASTIC, 51 = ELASTIC, 52 = ELASTIC, 53 = ELASTIC, 54 = ELASTIC, 55 = ELASTIC, 56 = ELASTIC, 57 = ELASTIC, 58 = ELASTIC, 59 = ELASTIC, 60 = ELASTIC, 61 = ELASTIC, 62 = ELASTIC, 63 = ELASTIC, 64 = ELASTIC, 65 = ELASTIC, 66 = ELASTIC, 67 = ELASTIC, 68 = ELASTIC, 69 = ELASTIC, 70 = ELASTIC, 71 = ELASTIC, 72 = ELASTIC, 73 = ELASTIC, 74 = 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1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR OCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ REFERENCE: 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFERENCE: 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

6/ 1 = BUCKY, 2 = VERY BUCKY, 3 = BUCKY, 4 = BUCKY, 5 = BUCKY, 6 = BUCKY, 7 = BUCKY, 8 = BUCKY, 9 = BUCKY, 10 = BUCKY, 11 = VERY STRONG.

7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CRACKLE, XXX-6 = CRACKLE, XXX-5 = CRACKLE, XXX-4 = CRACKLE, XXX-3 = CRACKLE, XXX-2 = CRACKLE, XXX-1 = CRACKLE, XXX-0 = CRACKLE.

8/ XXX-9 = SOGGY, XXX-01 = THICK MALL OR HARSH, XXX-03 = CRACKLE, XXX-05 = OPEN, IRREGULAR, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR, XXX-08 = OPEN, SLIGHTLY IRREGULAR, XXX-09 = OPEN, SLIGHTLY IRREGULAR, XXX-10 = OPEN, SLIGHTLY IRREGULAR, XXX-11 = OPEN, SLIGHTLY IRREGULAR, XXX-12 = OPEN, SLIGHTLY IRREGULAR, XXX-13 = OPEN, SLIGHTLY IRREGULAR, XXX-14 = OPEN, SLIGHTLY IRREGULAR, XXX-15 = OPEN, SLIGHTLY IRREGULAR, XXX-16 = OPEN, SLIGHTLY IRREGULAR, XXX-17 = OPEN, SLIGHTLY IRREGULAR, XXX-18 = OPEN, SLIGHTLY IRREGULAR, XXX-19 = OPEN, SLIGHTLY IRREGULAR, XXX-20 = OPEN, SLIGHTLY IRREGULAR, XXX-21 = OPEN, SLIGHTLY IRREGULAR, XXX-22 = OPEN, SLIGHTLY IRREGULAR, XXX-23 = OPEN, SLIGHTLY IRREGULAR, XXX-24 = OPEN, SLIGHTLY IRREGULAR, XXX-25 = OPEN, SLIGHTLY IRREGULAR, XXX-26 = OPEN, SLIGHTLY IRREGULAR, XXX-27 = OPEN, SLIGHTLY IRREGULAR, XXX-28 = OPEN, SLIGHTLY IRREGULAR, XXX-29 = OPEN, SLIGHTLY IRREGULAR, XXX-30 = OPEN, SLIGHTLY IRREGULAR, XXX-31 = OPEN, SLIGHTLY IRREGULAR, XXX-32 = 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TABLE 12

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.M. #/BU.	1000 KWT.	KERNEL SIZE LG MED SM	WHT. MIN.	WHT. MAX.	KERN. CHKA.	FUR. EXT.	FUR. MIN.	FLR. PRO.	FLR. CHKA.	HG. PER.	MIX. PER.	MIX. ABS.	BAKE ABS.	PIX. TIME	OC LGH CHRN.	CRUMB COLOR	CRUMB GRAIN	LCF BAKE VOL. EVAL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY		
		G.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
FARGO, NORTH DAKOTA																								
BONANZA	63-0	30-2	30	69	1	1-54	13-9	6	57-6	0-47	13-2	2	5	60-3	5	60-3	6	100-C	94-99	178	8	1	KW LG EX MT	WP BA
BOUNTY 208	64-0	31-2	33	66	1	1-60	13-8	6	61-4	0-45	13-2	1	2	60-3	6	60-3	5	101-0	94-99	182	8	1	KW LG MT	WP BA
CHRIS	63-0	30-9	43	56	1	1-57	15-8	8	61-4	0-45	15-6	1	4	59-7	4	59-7	4	102-0	94-99	172	8	1	KW LG SM	WP BA
ERA	63-0	31-2	29	68	3	1-62	12-9	8	62-6	0-50	12-4	1	2	63-5	4	63-5	5	98-0	92-99	172	8	1	P65 00	WP BA
FLETCHER	62-0	33-6	60	35	1	1-57	13-9	5	59-4	0-49	13-1	1	4	61-3	3	61-3	4	100-C	85-99	185	7	1	P65 00	WP BA
JUSTIN	62-0	36-6	74	25	1	1-71	16-1	2	59-4	0-45	15-8	1	3	64-7	6	64-7	4	100-C	89-99	178	2	4	KW SM WP	OC LV
MARQUIS	62-0	32-2	42	56	2	1-83	14-4	6	57-9	0-51	14-1	2	7	61-6	2	61-6	2	101-5	85-99	161	7	1	KW SM WP	M65
NEEPAHA	62-5	34-7	54	45	1	1-62	15-7	2	60-2	0-48	15-3	1	3	62-3	2	62-3	2	102-0	87-99	179	2	4	KW SM WP	OC LV
SELKIRK	61-0	38-9	61	38	1	1-70	14-9	4	61-9	0-49	14-6	1	3	61-6	2	61-6	2	99-0	91-99	174	4	3	P65 BA	WP BA
WALORON	62-0	36-5	73	26	1	1-65	15-1	2	62-6	0-45	14-4	1	2	61-9	3	61-9	3	100-0	92-99	180	4	3	BA	WP BA
WS 1651-E	63-0	31-2	20	78	2	1-65	13-5	8	59-3	0-47	12-5	1	3	59-3	7	59-3	6	100-0	92-99	171	8	1	KW SM MT	LG WP BA
WS 1809	64-0	34-6	63	36	1	1-56	14-6	4	59-9	0-41	13-2	1	3	61-9	5	61-9	4	100-0	92-99	186	6	2	EX BA	WP
WS 271	63-0	38-1	71	28	1	1-67	14-4	5	56-2	0-43	13-2	1	4	60-0	8	60-0	5	99-0	92-99	182	8	1	WP MT	EX BA
ND 497	62-0	36-1	64	30	1	1-62	14-4	5	60-7	0-41	13-3	1	2	61-9	5	61-9	4	100-0	91-99	181	4	3	BA	WP
ND 499	63-0	34-8	69	30	1	1-61	14-0	5	60-7	0-41	13-3	1	2	61-9	5	61-9	4	100-0	91-99	181	4	3	BA	WP
ND 501	63-0	39-1	83	16	1	1-75	14-8	4	57-1	0-53	14-0	2	8	63-2	3	63-2	3	101-0	92-99	175	2	1	WP	EX M65
ND 506	62-5	39-7	81	18	1	1-74	15-0	3	58-0	0-46	14-2	2	4	61-9	3	61-9	3	100-C	92-99	194	4	2	EX BA	MT
NK 70V14	63-5	35-2	49	49	2	1-65	14-3	6	59-3	0-46	13-5	2	3	62-5	11	62-5	11	101-8	92-99	197	8	1	SM WP	MT
WS 271	63-0	34-0	49	49	2	1-50	13-9	6	60-4	0-41	13-5	1	2	60-7	8	60-7	8	99-0	92-99	189	8	1	SM MT	DO
WS 1678-1-69	62-5	35-8	64	34	2	1-56	14-0	5	58-9	0-40	13-8	2	3	63-8	9	63-8	9	101-0	85-99	195	8	1	SM	WP MT
LANGDON, NORTH DAKOTA																								
BONANZA	63-5	26-1	42	57	1	1-37	13-7	6	67-6	0-44	13-4	1	2	61-6	6	61-6	4	101-0	94-99	190	5	3	LG WP BA	MT
BOUNTY 208	63-0	36-9	62	37	1	1-40	13-6	5	67-8	0-45	13-2	1	3	61-9	6	61-9	4	101-C	94-99	191	4	3	WP BA	BA
CHRIS	62-0	33-6	50	49	1	1-35	15-1	3	68-1	0-44	14-9	1	2	63-8	4	63-8	4	103-C	91-99	190	2	4	KW	WP
ERA	63-0	36-5	60	39	1	1-36	12-1	8	71-2	0-50	11-1	1	8	59-0	4	59-0	4	99-0	92-99	178	8	1	PO	WP
FLETCHER	62-0	38-0	65	34	1	1-31	13-0	5	68-5	0-48	12-4	1	4	61-0	3	61-0	3	101-C	87-99	185	8	1	P65 00	WP BA
JUSTIN	62-0	39-1	78	21	1	1-56	14-8	2	68-4	0-44	14-6	1	2	64-2	5	64-2	3	100-0	87-99	181	5	3	WP	OC
MARQUIS	62-5	32-8	59	60	1	1-40	14-5	6	68-7	0-45	13-2	1	3	61-0	2	61-0	2	101-C	92-99	179	8	1	KW LG WP	WP
SELKIRK	59-0	40-8	68	31	1	1-59	12-9	2	67-8	0-46	13-3	1	3	62-5	3	62-5	3	101-C	91-99	186	6	1	KW LG WP	OC
WALORON	61-5	41-2	82	17	1	1-50	15-1	2	69-6	0-52	14-6	1	8	62-5	4	62-5	3	100-0	91-99	192	6	1	BA	M65
WS 1651-E	62-5	33-0	33	66	1	1-52	13-5	6	66-5	0-46	13-0	2	3	60-7	7	60-7	3	101-0	85-99	187	8	1	KW LG WP	MT
WS 1809	63-0	34-4	64	35	1	1-37	13-5	5	70-3	0-44	13-1	1	2	61-6	4	61-6	3	100-C	92-99	182	7	2	KW WP BA	OC
ND 491	62-0	43-1	84	15	1	1-44	14-6	2	69-5	0-48	13-8	1	4	61-3	4	61-3	5	100-C	92-99	184	7	1	P65 00	BA
ND 497	61-5	41-8	71	28	1	1-58	14-1	4	66-9	0-46	13-4	1	3	59-7	7	60-0	4	100-E	88-99	182	3	1	WP MT	CC
ND 499	62-5	40-2	75	24	1	1-51	13-7	5	69-0	0-45	13-0	1	3	61-9	5	61-9	4	100-C	87-99	195	4	3	WP BA	BA
ND 501	61-0	41-3	78	20	2	1-48	14-6	3	69-8	0-53	14-1	1	8	63-8	3	63-8	3	98-C	92-99	202	2	1	SM	M65
ND 506	61-5	42-9	83	10	1	1-48	14-6	2	69-5	0-47	13-5	1	3	63-8	3	63-8	3	99-C	86-99	202	4	3	SM	OC
NK 70V14	62-5	40-0	49	49	2	1-44	14-0	4	67-8	0-43	13-7	1	2	62-5	11	62-5	11	101-E	86-99	202	8	1	SM	MT
WS 271	62-0	34-6	53	45	2	1-55	13-8	5	68-2	0-46	13-7	1	3	62-8	7	62-8	6	101-0	92-99	205	5	2	KW SM WP	MT
WS 1678-1-69	60-5	38-1	56	42	2	1-57	13-4	6	66-0	0-46	13-2	1	4	62-8	7	62-8	7	100-0	87-99	215	5	2	SM	WP
1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.M.																								
2/ 14% MOISTURE BASIS.																								
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.																								
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90/ REFERENCE = NORMAL-CR																								

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR LOCKAGE-FREE T.M.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-SATISFACTORY, 4 = QUESTIONABLE, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-SATISFACTORY, 4 = QUESTIONABLE, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

5/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-SATISFACTORY, 4 = QUESTIONABLE, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY CEAD, 30 = CEAD.

7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.

8/ XXX-00 = SOGGY, XXX-01 = THICK WALL OR HARSH, XXX-03 = CLOSE, XXX-05 = OPEN, XXX-06 = OPEN, XXX-07 = IRREGULAR, XXX-08 = OPEN, XXX-09 = OPEN, XXX-10 = SLIGHTLY IRREGULAR, XXX-11 = SLIGHTLY IRREGULAR, XXX-12 = SLIGHTLY IRREGULAR, XXX-13 = SLIGHTLY IRREGULAR, XXX-14 = SLIGHTLY IRREGULAR, XXX-15 = SLIGHTLY IRREGULAR, XXX-16 = SLIGHTLY IRREGULAR, XXX-17 = SLIGHTLY IRREGULAR, XXX-18 = SLIGHTLY IRREGULAR, XXX-19 = SLIGHTLY IRREGULAR, XXX-20 = SLIGHTLY IRREGULAR, XXX-21 = SLIGHTLY IRREGULAR, XXX-22 = SLIGHTLY IRREGULAR, XXX-23 = SLIGHTLY IRREGULAR, XXX-24 = SLIGHTLY IRREGULAR, XXX-25 = SLIGHTLY IRREGULAR, XXX-26 = SLIGHTLY IRREGULAR, XXX-27 = SLIGHTLY IRREGULAR, XXX-28 = SLIGHTLY IRREGULAR, XXX-29 = SLIGHTLY IRREGULAR, XXX-30 = SLIGHTLY IRREGULAR, XXX-31 = SLIGHTLY IRREGULAR, XXX-32 = SLIGHTLY IRREGULAR, XXX-33 = SLIGHTLY IRREGULAR, XXX-34 = SLIGHTLY IRREGULAR, XXX-35 = SLIGHTLY IRREGULAR, XXX-36 = SLIGHTLY IRREGULAR, XXX-37 = SLIGHTLY IRREGULAR, XXX-38 = SLIGHTLY IRREGULAR, XXX-39 = SLIGHTLY IRREGULAR, XXX-40 = SLIGHTLY IRREGULAR, XXX-41 = SLIGHTLY IRREGULAR, XXX-42 = SLIGHTLY IRREGULAR, XXX-43 = SLIGHTLY IRREGULAR, XXX-44 = SLIGHTLY IRREGULAR, XXX-45 = SLIGHTLY IRREGULAR, XXX-46 = SLIGHTLY IRREGULAR, XXX-47 = SLIGHTLY IRREGULAR, XXX-48 = SLIGHTLY IRREGULAR, XXX-49 = SLIGHTLY IRREGULAR, XXX-50 = SLIGHTLY IRREGULAR, XXX-51 = SLIGHTLY IRREGULAR, XXX-52 = SLIGHTLY IRREGULAR, XXX-53 = SLIGHTLY IRREGULAR, XXX-54 = SLIGHTLY IRREGULAR, XXX-55 = SLIGHTLY IRREGULAR, XXX-56 = SLIGHTLY IRREGULAR, XXX-57 = SLIGHTLY IRREGULAR, XXX-58 = SLIGHTLY IRREGULAR, XXX-59 = SLIGHTLY IRREGULAR, XXX-60 = SLIGHTLY IRREGULAR, XXX-61 = SLIGHTLY IRREGULAR, XXX-62 = SLIGHTLY IRREGULAR, XXX-63 = SLIGHTLY IRREGULAR, XXX-64 = SLIGHTLY IRREGULAR, XXX-65 = SLIGHTLY IRREGULAR, XXX-66 = SLIGHTLY IRREGULAR, XXX-67 = SLIGHTLY IRREGULAR, XXX-68 = SLIGHTLY IRREGULAR, XXX-69 = SLIGHTLY IRREGULAR, XXX-70 = SLIGHTLY IRREGULAR, XXX-71 = SLIGHTLY IRREGULAR, XXX-72 = SLIGHTLY IRREGULAR, XXX-73 = SLIGHTLY IRREGULAR, XXX-74 = SLIGHTLY IRREGULAR, XXX-75 = SLIGHTLY IRREGULAR, XXX-76 = SLIGHTLY IRREGULAR, XXX-77 = SLIGHTLY IRREGULAR, XXX-78 = SLIGHTLY IRREGULAR, XXX-79 = SLIGHTLY IRREGULAR, XXX-80 = SLIGHTLY IRREGULAR, XXX-81 = SLIGHTLY IRREGULAR, XXX-82 = SLIGHTLY IRREGULAR, XXX-83 = SLIGHTLY IRREGULAR, XXX-84 = SLIGHTLY IRREGULAR, XXX-85 = SLIGHTLY IRREGULAR, XXX-86 = SLIGHTLY IRREGULAR, XXX-87 = SLIGHTLY IRREGULAR, XXX-88 = SLIGHTLY IRREGULAR, XXX-89 = SLIGHTLY IRREGULAR, XXX-90 = SLIGHTLY IRREGULAR, XXX-91 = SLIGHTLY IRREGULAR, XXX-92 = SLIGHTLY IRREGULAR, XXX-93 = SLIGHTLY IRREGULAR, XXX-94 = SLIGHTLY IRREGULAR, XXX-95 = SLIGHTLY IRREGULAR, XXX-96 = SLIGHTLY IRREGULAR, XXX-97 = SLIGHTLY IRREGULAR, XXX-98 = SLIGHTLY IRREGULAR, XXX-99 = SLIGHTLY IRREGULAR, XXX-100 = SLIGHTLY IRREGULAR.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 14.

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	1. W. 4780.	2. LG 3	3. ED 4	4. SIZE 5	5. W.T. 6	6. MIN. 7	7. KERN. 8	8. EXT. 9	9. PRO. 10	10. PER. 11	11. M.G. 12	12. MIX. 13	13. ABS. 14	14. BAKE 15	15. TIME 16	16. MIX. 17	17. DCLGH 18	18. CRUM8 19	19. CRUM8 20	20. GRAIN 21	21. VOL. 22	22. BAKE 23	23. GEN. 24	24. MINOR DEFICIENCY	25. MAJOR DEFICIENCY
HIGHTOWN, SOUTH DAKOTA																									
RONANZA	57-5	23-5	1	88	11	1-99	16-3	8	59-2	0-52	15-9	1	4	61-6	6	61-6	4	100-0	53-99	182	4	1	1	1	LG SM
BOUNTY 208	57-5	24-7	2	53	5	1-92	15-7	8	56-5	0-55	15-2	2	8	61-9	7	61-9	4	101-0	52-99	190	2	1	1	1	LG EX
CHRIS	59-5	23-3	3	52	5	2-00	17-0	8	59-9	0-56	16-7	1	3	61-2	4	61-2	4	100-0	51-99	187	2	1	1	1	LG EX
ERA	57-0	24-3	5	88	7	2-06	15-0	8	59-9	0-56	16-7	1	5	61-2	4	61-2	4	100-0	51-99	187	2	1	1	1	LG EX
FLETCHER	55-0	24-8	5	90	5	2-08	16-1	5	58-0	0-56	15-6	2	8	62-8	4	62-8	4	101-5	50-99	194	4	1	1	1	TM LG EX
JUSTIN	60-0	29-7	15	79	2	1-96	16-5	2	61-2	0-49	15-9	1	2	61-9	3	61-9	3	101-0	51-99	186	2	4	4	4	EX M65
MARQUIS	58-5	26-4	1	86	4	2-02	17-5	3	59-6	0-55	16-8	1	5	62-5	4	62-5	3	100-7	51-99	187	2	3	3	3	EX M65
NEPANA	60-0	28-4	1	90	1	1-97	16-9	2	54-3	0-60	16-2	2	8	60-3	2	60-3	2	101-5	85-99	173	7	1	1	1	EX M65
SELKIRK	57-0	31-2	16	82	2	1-96	16-4	3	62-6	0-54	16-1	1	3	60-7	2	60-7	5	100-5	52-99	180	6	2	2	2	EX M65
MALORIN	58-5	30-9	31	68	1	1-98	16-7	2	60-2	0-55	16-1	1	5	64-4	4	64-4	3	102-5	50-99	206	1	3	3	3	EX M65
MS 1651-E	56-0	22-6	1	89	10	1-99	15-9	8	55-2	0-55	15-3	2	8	62-5	7	62-5	3	100-0	88-99	199	8	1	1	1	TM KM M65
MS 1809	61-0	30-0	14	83	3	1-97	15-5	4	59-8	0-48	14-6	1	3	62-5	4	62-5	4	101-7	52-99	192	2	4	4	4	EX M65
NO 491-E	61-0	32-3	3	57	2	1-97	16-8	2	58-9	0-53	15-7	1	5	64-2	4	64-2	3	102-7	51-99	203	2	3	3	3	EX M65
NO 493	60-0	32-3	3	64	3	1-86	15-4	5	58-6	0-52	15-7	2	5	61-9	4	61-9	3	102-7	52-99	195	2	3	3	3	EX M65
NO 501	59-0	34-2	46	51	3	1-98	16-3	2	57-9	0-59	15-4	2	8	64-7	3	64-7	5	101-5	52-99	199	2	1	1	1	EX M65
NO 506	60-0	32-7	45	52	3	1-97	16-7	2	57-7	0-54	15-7	2	8	63-8	4	63-8	2	101-0	51-99	186	2	1	1	1	EX M65
NK 70Y14	60-5	29-2	6	91	3	1-98	15-5	5	60-3	0-52	14-9	1	3	63-2	10	63-2	3	102-8	90-99	209	8	1	1	1	LG KM SM
MISC 271	56-0	25-2	3	89	8	1-96	15-7	8	59-0	0-50	15-1	1	4	62-8	8	62-8	6	100-5	51-99	194	8	1	1	1	EX M65
MISC H678-1-6-9	57-0	30-2	17	80	3	1-86	15-1	5	60-1	0-45	14-4	1	3	63-2	6	63-2	3	102-7	85-99	206	8	1	1	1	EX M65
WATERTOWN, SOUTH DAKOTA																									
RONANZA	60-5	26-2	3	90	7	1-61	15-0	8	62-4	0-46	14-4	1	5	62-5	5	62-5	4	101-0	51-99	186	4	1	1	1	EX M65
BOUNTY 208	60-5	25-9	2	85	9	1-70	14-7	8	61-3	0-43	13-7	1	4	61-3	5	61-3	5	100-0	52-99	203	6	1	1	1	EX M65
CHRIS	62-0	29-7	1E	80	2	1-67	16-2	3	62-6	0-41	15-8	1	3	64-2	3	64-2	3	102-0	51-99	190	3	3	3	3	EX M65
ERA	62-0	29-8	14	83	3	1-55	13-5	8	65-9	0-42	12-8	1	2	60-7	2	60-7	2	100-5	51-99	191	8	1	1	1	EX M65
FLETCHER	61-0	32-4	32	66	2	1-61	14-2	5	64-5	0-40	13-3	1	2	61-6	2	61-6	2	101-7	50-99	194	5	3	3	3	EX M65
JUSTIN	62-5	30-6	41	57	2	1-69	16-1	2	63-4	0-40	15-4	1	2	64-2	5	64-2	3	101-7	51-99	184	4	3	3	3	EX M65
MARQUIS	62-0	29-4	23	74	3	1-73	15-5	3	61-5	0-44	14-8	1	5	64-2	4	64-2	3	100-0	50-99	182	2	2	2	2	EX M65
SELKIRK	62-0	31-7	21	75	3	1-72	15-9	3	61-4	0-43	15-1	1	3	63-8	3	63-8	3	100-0	50-99	182	3	3	3	3	EX M65
MALORIN	61-0	32-7	47	51	2	1-71	15-7	2	64-1	0-41	15-0	1	2	63-8	4	63-8	3	100-0	93-99	201	2	4	4	4	EX M65
MS 1651-E	60-5	25-7	4	92	4	1-64	14-2	8	60-8	0-40	13-5	2	3	60-7	6	60-7	4	101-0	51-99	185	8	1	1	1	EX M65
MS 1809	60-5	27-2	10	86	4	1-58	15-2	6	64-8	0-36	14-4	1	2	63-2	5	63-2	4	99-0	51-99	188	2	4	4	4	EX M65
NO 491	62-0	34-5	47	51	2	1-75	16-1	2	61-2	0-42	15-2	1	4	63-8	4	63-8	3	100-8	53-99	201	2	3	3	3	EX M65
NO 497	61-0	31-3	38	60	2	1-65	15-3	3	60-4	0-37	13-9	2	4	61-0	6	61-0	6	100-8	85-99	204	8	1	1	1	EX M65
NO 499	62-0	32-6	47	52	1	1-60	14-8	4	63-4	0-36	13-6	1	2	61-0	4	61-0	3	100-0	50-99	198	8	1	1	1	EX M65
NO 501	63-0	36-6	59	38	3	1-62	15-4	3	60-7	0-46	14-6	2	7	62-5	3	62-5	5	101-0	53-99	184	4	1	1	1	EX M65
NO 506	62-0	34-4	53	45	2	1-75	15-5	2	60-4	0-49	15-9	2	5	62-5	4	62-5	3	100-0	52-99	194	2	3	3	3	EX M65
NK 70Y14	62-0	27-9	7	88	5	1-56	14-7	6	62-6	0-40	13-7	1	2	62-3	11	62-3	9	102-8	88-99	223	8	1	1	1	EX M65
MISC 271	62-5	34-1	33	65	2	1-49	14-1	5	64-6	0-36	13-2	1	2	60-3	5	60-3	4	101-7	51-99	185	8	1	1	1	EX M65
MISC H678-1-6-9	62-5	31-5	39	59	2	1-54	14-0	8	62-6	0-35	13-4	2	2	61-3	6	61-3	4	101-0	90-99	203	5	1	1	1	EX M65

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 1 = NEARLY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-QUESTIONABLE, 4 = QUESTIONABLE-UNSATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NEARLY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-QUESTIONABLE, 4 = QUESTIONABLE-UNSATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

5/ 1 = NEARLY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-QUESTIONABLE, 4 = QUESTIONABLE-UNSATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

6/ 1 = RUCKY, 2 = VERY ELASTIC, 3 = ELASTIC-PLIABLE, 4 = ELASTIC-PLIABLE, 5 = ELASTIC-PLIABLE, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-P LIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY GREASY, XXX-6 = BRIGHT GREASY, XXX-5 = GREASY, XXX-4 = VERY GREASY, XXX-3 = GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.

8/ XXX-00 = SMOGY, XXX-01 = THICK MALL OR HARSH, XXX-C3 = CLCSE, XXX-05 = OPEN, IRREGULAR, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR, OPEN, XXX-09 = OPEN, XXX-10 = SLIGHTLY OPEN, IRREGULAR.

9/ 1 = NC PROMISE, 2 = LITTLE PROMISE, 3 = SCME PROMISE, 4 = GOOD PROMISE.



QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 KMT.	KERNEL SIZE		WHT. MIT.	WHT. PRO.	KERN. CHAR.	FLR. EXT.	MIN. 2 65EX.	FLR. PRO.	MLG. CHAR.	MLG. PER.	MIX. ABS.	MIX. PAT.	BAKE ABS.	MIX. TIME	DOUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	LCAF BAKE VOL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY	
			LG	REC SM																				
LINO, WASHINGTON																								
BONANZA	60.0	27.8	10	87	3	1.54	14.9	4	56.3	0.55	14.7	2	6	60.0	2	60.0	2.50	6	99.5	90.01	173	2	3	LG EX M65
BOUNTY 208	61.5	31.8	23	75	2	1.58	15.3	2	58.5	0.47	15.1	2	2	61.6	3	61.6	2.00	5	101.0	90.01	175	2	3	LG M65
CHERRY	59.0	27.8	13	96	2	1.59	15.7	3	57.3	0.54	15.5	2	2	61.0	2	2.00	6	101.5	90.01	175	2	3	LG M65	
ERA	60.0	29.2	20	77	3	1.38	13.2	8	58.8	0.51	12.7	1	2	57.2	3	57.2	3.00	6	103.6	89.70	173	8	1	WP BA
FLETCHER	59.5	33.3	50	48	2	1.44	14.4	4	58.3	0.49	14.0	1	2	59.0	2	59.0	3.00	6	102.7	92.99	171	4	3	WP BA
JUSTIN	59.5	30.3	33	65	2	1.54	15.5	2	57.3	0.51	15.3	2	3	62.3	3	62.3	3.00	6	100.5	90.01	170	2	4	
MARQUIS	58.5	27.7	18	80	2	1.50	14.9	3	59.0	0.52	14.4	1	3	59.3	2	59.3	2.50	6	100.7	90.01	180	4	3	BA
NEEPAWA	59.0	29.4	20	78	2	1.46	15.4	3	59.0	0.50	15.2	1	2	59.3	2	59.3	1.75	6	100.5	90.01	178	4	3	BA
SEKIRK	57.5	30.6	26	72	2	1.50	14.8	3	61.9	0.49	14.4	1	1	59.3	2	59.3	2.00	6	102.6	90.01	177	4	3	BA
WALORD	59.5	33.7	48	50	2	1.62	15.8	4	58.2	0.53	15.6	1	4	61.3	2	61.3	2.50	5	99.5	90.01	186	3	3	M65
MS 1651-E	61.0	30.2	11	80	2	1.52	14.3	5	58.8	0.48	14.1	1	2	60.0	4	60.0	3.25	6	99.0	88.09	176	2	4	WP
MS 1809	60.5	32.4	41	57	2	1.50	14.9	2	59.2	0.50	14.7	1	2	60.7	2	60.7	2.50	6	98.5	91.01	180	2	4	WP
NO 491	59.5	32.3	49	48	3	1.56	15.2	2	57.1	0.52	15.0	1	4	61.3	3	61.3	2.75	5	98.5	90.70	191	3	3	WP MT
NO 497	59.0	33.6	45	53	2	1.50	14.1	5	58.8	0.49	13.9	1	2	61.0	4	61.0	3.50	5	103.6	91.90	194	4	3	WP
NO 499	58.5	33.1	53	45	2	1.50	14.0	1	59.4	0.50	13.7	1	2	58.7	2	58.7	2.50	7	103.4	89.01	170	6	2	WP
NO 501	59.0	32.8	58	40	2	1.63	15.9	2	57.5	0.57	15.7	1	8	62.8	2	62.8	2.25	5	100.5	92.99	185	2	1	M65
NO 506	60.0	33.1	48	70	2	1.55	15.0	2	56.1	0.52	14.8	2	1	61.0	3	61.0	2.50	5	103.6	82.09	200	8	1	EX
NK 70714	50.0	21.6	20	83	3	1.51	13.5	3	56.5	0.51	14.2	1	3	61.0	6	61.0	3.25	5	101.6	85.09	190	3	1	LG
NK 70715	50.0	21.6	20	83	3	1.51	13.5	3	56.5	0.51	14.2	1	3	61.0	6	61.0	3.25	5	101.6	85.09	190	3	1	LG
MISC H678-1-6	59.0	29.7	25	73	2	1.55	15.1	2	57.7	0.49	14.9	1	2	62.5	3	62.5	3.00	5	101.5	91.99	190	3	4	

1/ CLEAN ORY - SUBTRACT 1 LB./BU. FOR OCKAGE-FREE T.W.

2/ 148 MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE PICTOGRAMS FOR NUMERICAL CURVE PATTERNS: 11 = VERY WEAK, 12 = WEAK, 13 = PLIABLE-WEAK, 14 = WEAK, 15 = PLIABLE-WEAK, 16 = WEAK, 17 = PLIABLE-WEAK, 18 = WEAK, 19 = WEAK, 20 = SLIGHTLY WEAK, 21 = WEAK, 22 = WEAK, 23 = WEAK, 24 = WEAK, 25 = WEAK, 26 = WEAK, 27 = WEAK, 28 = WEAK, 29 = WEAK, 30 = WEAK, 31 = WEAK, 32 = WEAK, 33 = WEAK, 34 = WEAK, 35 = WEAK, 36 = WEAK, 37 = WEAK, 38 = WEAK, 39 = WEAK, 40 = WEAK, 41 = WEAK, 42 = WEAK, 43 = WEAK, 44 = WEAK, 45 = WEAK, 46 = WEAK, 47 = WEAK, 48 = WEAK, 49 = WEAK, 50 = WEAK, 51 = WEAK, 52 = WEAK, 53 = WEAK, 54 = WEAK, 55 = WEAK, 56 = WEAK, 57 = WEAK, 58 = WEAK, 59 = WEAK, 60 = WEAK, 61 = WEAK, 62 = WEAK, 63 = WEAK, 64 = WEAK, 65 = WEAK, 66 = WEAK, 67 = WEAK, 68 = WEAK, 69 = WEAK, 70 = WEAK, 71 = WEAK, 72 = WEAK, 73 = WEAK, 74 = WEAK, 75 = WEAK, 76 = WEAK, 77 = WEAK, 78 = WEAK, 79 = WEAK, 80 = WEAK, 81 = WEAK, 82 = WEAK, 83 = WEAK, 84 = WEAK, 85 = WEAK, 86 = WEAK, 87 = WEAK, 88 = WEAK, 89 = WEAK, 90 = WEAK, 91 = WEAK, 92 = WEAK, 93 = WEAK, 94 = WEAK, 95 = WEAK, 96 = WEAK, 97 = WEAK, 98 = WEAK, 99 = WEAK, 100 = WEAK.

6/ XXX = BUCKLE, XXX.01 = T-ICK, XXX.02 = T-ICK, XXX.03 = T-ICK, XXX.04 = T-ICK, XXX.05 = T-ICK, XXX.06 = T-ICK, XXX.07 = T-ICK, XXX.08 = T-ICK, XXX.09 = T-ICK, XXX.10 = T-ICK, XXX.11 = T-ICK, XXX.12 = T-ICK, XXX.13 = T-ICK, XXX.14 = T-ICK, XXX.15 = T-ICK, XXX.16 = T-ICK, XXX.17 = T-ICK, XXX.18 = T-ICK, XXX.19 = T-ICK, XXX.20 = T-ICK, XXX.21 = T-ICK, XXX.22 = T-ICK, XXX.23 = T-ICK, XXX.24 = T-ICK, XXX.25 = T-ICK, XXX.26 = T-ICK, XXX.27 = T-ICK, XXX.28 = T-ICK, XXX.29 = T-ICK, XXX.30 = T-ICK, XXX.31 = T-ICK, XXX.32 = T-ICK, XXX.33 = T-ICK, XXX.34 = T-ICK, XXX.35 = T-ICK, XXX.36 = T-ICK, XXX.37 = T-ICK, XXX.38 = T-ICK, XXX.39 = T-ICK, XXX.40 = T-ICK, XXX.41 = T-ICK, XXX.42 = T-ICK, XXX.43 = T-ICK, XXX.44 = T-ICK, XXX.45 = T-ICK, XXX.46 = T-ICK, XXX.47 = T-ICK, XXX.48 = T-ICK, XXX.49 = T-ICK, XXX.50 = T-ICK, XXX.51 = T-ICK, XXX.52 = T-ICK, XXX.53 = T-ICK, XXX.54 = T-ICK, XXX.55 = T-ICK, XXX.56 = T-ICK, XXX.57 = T-ICK, XXX.58 = T-ICK, XXX.59 = T-ICK, XXX.60 = T-ICK, XXX.61 = T-ICK, XXX.62 = T-ICK, XXX.63 = T-ICK, XXX.64 = T-ICK, XXX.65 = T-ICK, XXX.66 = T-ICK, XXX.67 = T-ICK, XXX.68 = T-ICK, XXX.69 = T-ICK, XXX.70 = T-ICK, XXX.71 = T-ICK, XXX.72 = T-ICK, XXX.73 = T-ICK, XXX.74 = T-ICK, XXX.75 = T-ICK, XXX.76 = T-ICK, XXX.77 = T-ICK, XXX.78 = T-ICK, XXX.79 = T-ICK, XXX.80 = T-ICK, XXX.81 = T-ICK, XXX.82 = T-ICK, XXX.83 = T-ICK, XXX.84 = T-ICK, XXX.85 = T-ICK, XXX.86 = T-ICK, XXX.87 = T-ICK, XXX.88 = T-ICK, XXX.89 = T-ICK, XXX.90 = T-ICK, XXX.91 = T-ICK, XXX.92 = T-ICK, XXX.93 = T-ICK, XXX.94 = T-ICK, XXX.95 = T-ICK, XXX.96 = T-ICK, XXX.97 = T-ICK, XXX.98 = T-ICK, XXX.99 = T-ICK, XXX.100 = T-ICK.

7/ XXX = BUCKLE, XXX.01 = T-ICK, XXX.02 = T-ICK, XXX.03 = T-ICK, XXX.04 = T-ICK, XXX.05 = T-ICK, XXX.06 = T-ICK, XXX.07 = T-ICK, XXX.08 = T-ICK, XXX.09 = T-ICK, XXX.10 = T-ICK, XXX.11 = T-ICK, XXX.12 = T-ICK, XXX.13 = T-ICK, XXX.14 = T-ICK, XXX.15 = T-ICK, XXX.16 = T-ICK, XXX.17 = T-ICK, XXX.18 = T-ICK, XXX.19 = T-ICK, XXX.20 = T-ICK, XXX.21 = T-ICK, XXX.22 = T-ICK, XXX.23 = T-ICK, XXX.24 = T-ICK, XXX.25 = T-ICK, XXX.26 = T-ICK, XXX.27 = T-ICK, XXX.28 = T-ICK, XXX.29 = T-ICK, XXX.30 = T-ICK, XXX.31 = T-ICK, XXX.32 = T-ICK, XXX.33 = T-ICK, XXX.34 = T-ICK, XXX.35 = T-ICK, XXX.36 = T-ICK, XXX.37 = T-ICK, XXX.38 = T-ICK, XXX.39 = T-ICK, XXX.40 = T-ICK, XXX.41 = T-ICK, XXX.42 = T-ICK, XXX.43 = T-ICK, XXX.44 = T-ICK, XXX.45 = T-ICK, XXX.46 = T-ICK, XXX.47 = T-ICK, XXX.48 = T-ICK, XXX.49 = T-ICK, XXX.50 = T-ICK, XXX.51 = T-ICK, XXX.52 = T-ICK, XXX.53 = T-ICK, XXX.54 = T-ICK, XXX.55 = T-ICK, XXX.56 = T-ICK, XXX.57 = T-ICK, XXX.58 = T-ICK, XXX.59 = T-ICK, XXX.60 = T-ICK, XXX.61 = T-ICK, XXX.62 = T-ICK, XXX.63 = T-ICK, XXX.64 = T-ICK, XXX.65 = T-ICK, XXX.66 = T-ICK, XXX.67 = T-ICK, XXX.68 = T-ICK, XXX.69 = T-ICK, XXX.70 = T-ICK, XXX.71 = T-ICK, XXX.72 = T-ICK, XXX.73 = T-ICK, XXX.74 = T-ICK, XXX.75 = T-ICK, XXX.76 = T-ICK, XXX.77 = T-ICK, XXX.78 = T-ICK, XXX.79 = T-ICK, XXX.80 = T-ICK, XXX.81 = T-ICK, XXX.82 = T-ICK, XXX.83 = T-ICK, XXX.84 = T-ICK, XXX.85 = T-ICK, XXX.86 = T-ICK, XXX.87 = T-ICK, XXX.88 = T-ICK, XXX.89 = T-ICK, XXX.90 = T-ICK, XXX.91 = T-ICK, XXX.92 = T-ICK, XXX.93 = T-ICK, XXX.94 = T-ICK, XXX.95 = T-ICK, XXX.96 = T-ICK, XXX.97 = T-ICK, XXX.98 = T-ICK, XXX.99 = T-ICK, XXX.100 = T-ICK.

8/ XXX.00 = SOGGY, XXX.01 = T-ICK, XXX.02 = T-ICK, XXX.03 = T-ICK, XXX.04 = T-ICK, XXX.05 = T-ICK, XXX.06 = T-ICK, XXX.07 = T-ICK, XXX.08 = T-ICK, XXX.09 = T-ICK, XXX.10 = T-ICK, XXX.11 = T-ICK, XXX.12 = T-ICK, XXX.13 = T-ICK, XXX.14 = T-ICK, XXX.15 = T-ICK, XXX.16 = T-ICK, XXX.17 = T-ICK, XXX.18 = T-ICK, XXX.19 = T-ICK, XXX.20 = T-ICK, XXX.21 = T-ICK, XXX.22 = T-ICK, XXX.23 = T-ICK, XXX.24 = T-ICK, XXX.25 = T-ICK, XXX.26 = T-ICK, XXX.27 = T-ICK, XXX.28 = T-ICK, XXX.29 = T-ICK, XXX.30 = T-ICK, XXX.31 = T-ICK, XXX.32 = T-ICK, XXX.33 = T-ICK, XXX.34 = T-ICK, XXX.35 = T-ICK, XXX.36 = T-ICK, XXX.37 = T-ICK, XXX.38 = T-ICK, XXX.39 = T-ICK, XXX.40 = T-ICK, XXX.41 = T-ICK, XXX.42 = T-ICK, XXX.43 = T-ICK, XXX.44 = T-ICK, XXX.45 = T-ICK, XXX.46 = T-ICK, XXX.47 = T-ICK, XXX.48 = T-ICK, XXX.49 = T-ICK, XXX.50 = T-ICK, XXX.51 = T-ICK, XXX.52 = T-ICK, XXX.53 = T-ICK, XXX.54 = T-ICK, XXX.55 = T-ICK, XXX.56 = T-ICK, XXX.57 = T-ICK, XXX.58 = T-ICK, XXX.59 = T-ICK, XXX.60 = T-ICK, XXX.61 = T-ICK, XXX.62 = T-ICK, XXX.63 = T-ICK, XXX.64 = T-ICK, XXX.65 = T-ICK, XXX.66 = T-ICK, XXX.67 = T-ICK, XXX.68 = T-ICK, XXX.69 = T-ICK, XXX.70 = T-ICK, XXX.71 = T-ICK, XXX.72 = T-ICK, XXX.73 = T-ICK, XXX.74 = T-ICK, XXX.75 = T-ICK, XXX.76 = T-ICK, XXX.77 = T-ICK, XXX.78 = T-ICK, XXX.79 = T-ICK, XXX.80 = T-ICK, XXX.81 = T-ICK, XXX.82 = T-ICK, XXX.83 = T-ICK, XXX.84 = T-ICK, XXX.85 = T-ICK, XXX.86 = T-ICK, XXX.87 = T-ICK, XXX.88 = T-ICK, XXX.89 = T-ICK, XXX.90 = T-ICK, XXX.91 = T-ICK, XXX.92 = T-ICK, XXX.93 = T-ICK, XXX.94 = T-ICK, XXX.95 = T-ICK, XXX.96 = T-ICK, XXX.97 = T-ICK, XXX.98 = T-ICK, XXX.99 = T-ICK, XXX.100 = T-ICK.

9/ 1 = NC PREMISE, 2 = LITTLE PREMISE, 3 = SCME PREMISE, 4 = GOOD PREMISE.

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.W. #/BU.	1000 G.	KERNEL SIZE LG MED SM	WHT. MT.	WHT. PRO.	KERN. CHAR.	FLR. EXT.	MIN. Ø	FLR. PRO.	MLG. Ø	MIX. ABS.	MIX. PAT.	BAKE ABS.	MIX. TIME	DOUGH CHAR.	CRUMB COLOR	CRUMB GRAIN	LOAF VOL.	BAKE EVAL.	GEN. EVAL.	MINDR DEFICIENCY	MAJOR DEFICIENCY		
MADISON, WISCONSIN																								
BONANZA	60.0	26.4	5	90	5	1.97	16.3	8	53.8	0.53	16.0	2	8	63.5	7	63.5	3	101.6	90.99	203	5	1	KW M65 MT 00	LG EX
BOUNTY 208	59.0	27.0	9	87	4	2.01	15.4	4	54.7	0.53	14.8	2	6	63.2	5	63.2	3	102.6	91.99	200	4	2	KW EX M65 DO	LG
CHRIS	61.5	25.8	20	77	3	2.02	15.7	3	58.8	0.50	15.3	1	2	64.2	4	64.2	3	102.0	90.99	198	4	3	DD	DD
ERA	60.5	26.5	23	73	4	1.87	14.6	5	60.7	0.53	14.0	1	3	63.8	4	63.8	3	102.0	92.99	195	4	3	KW WP M65 00	
FLETCHER	59.5	30.3	35	62	3	1.92	15.5	2	59.7	0.55	15.2	1	4	65.3	5	65.3	4	101.7	89.99	201	2	3	M65	
JUSTIN	60.0	31.2	29	68	3	2.14	16.0	2	54.9	0.52	15.7	2	5	64.7	5	64.7	4	100.0	90.99	186	2	3	WN EX	
MERIDIS	61.0	29.4	25	72	3	1.99	13.8	6	55.9	0.55	13.2	2	5	60.0	3	60.0	3	101.0	90.99	184	8	1	M65 DO	WP BA
NEEPANA	59.5	29.1	17	81	2	2.07	16.6	3	59.0	0.52	16.3	1	2	63.5	3	63.5	3	101.7	90.99	198	4	3	LG DD	
SELKIRK	58.5	32.1	30	67	3	1.90	14.6	4	59.8	0.50	14.1	1	2	60.3	3	60.3	5	100.0	89.99	182	8	1	TW WP 00	BA
WALDRON	61.5	33.7	61	37	2	1.94	15.8	2	59.1	0.51	14.1	2	3	62.5	3	62.5	3	100.0	86.99	201	4	3	DD	PO
MS 1651-E	59.5	27.5	7	90	3	1.93	14.3	6	55.5	0.52	13.5	2	4	60.3	7	60.3	6	101.8	90.99	179	8	1	KW WP EX MT	LG BA DO
MS 1809	61.5	29.9	33	65	2	1.69	16.7	2	60.5	0.47	15.8	1	1	62.5	4	62.5	4	101.0	88.99	207	4	3	DD	
ND 491	62.5	36.4	61	38	1	1.91	16.0	2	60.5	0.48	15.6	1	1	64.2	4	64.2	3	102.0	87.99	213	4	3	DD	
ND 497	61.0	33.7	47	50	3	1.89	15.7	2	58.6	0.48	15.1	1	2	64.4	6	64.4	3	100.0	89.99	215	4	3	DD	
ND 499	62.5	37.6	63	36	1	1.86	15.0	2	61.4	0.46	14.4	1	1	64.2	5	64.2	3	102.0	89.99	205	4	3	DD	
ND 501	60.5	39.2	73	25	2	1.87	17.1	2	56.7	0.47	16.1	2	8	65.7	4	65.7	3	101.0	90.99	194	2	1	EX	M65
ND 506	62.0	35.5	66	33	2	1.95	16.6	2	59.0	0.49	15.9	1	2	66.3	5	66.3	3	101.0	89.99	208	3	4	DD	
NK 70Y14	61.0	30.6	24	73	3	1.90	16.0	2	59.0	0.53	15.0	1	3	65.7	8	65.7	3	101.8	87.99	211	8	1	M65 DO	MT
WISC 271	58.5	29.1	27	68	5	1.86	14.3	6	59.0	0.46	13.6	1	1	63.8	8	63.8	3	101.8	89.99	205	8	1	TW WP 00	MT
MISC H678-1-6-959.0	29.2	20	77	3	1.81	15.0			59.7	0.45	14.5	2	1	61.9	7	61.9	3	101.0	90.99	214	7	2	BA MT DO	

1/ CLEAN ORY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 1/4 MOISTURE BASIS.

3/ 1 = NEARLY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NEARLY NORMAL, 2 = NORMAL, 3 = SOFT-NORMAL, 4 = SOFT, 5 = VERY SOFT, 6 = VERY WEAK, 7 = WEAK, 8 = PLIABLE-WEAK, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

5/ REFER TO REFERENCE PICTURES FOR NUMERICAL CURVE PATTERNS. (1 = VERY WEAK, 11 = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-P LIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.

8/ XXX-00 = SOGGY, XXX-01 = THICK WALL OR HARSH, XXX-03 = CLOSE, XXX-05 = OPEN, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR-DPEN, XXX-09 = DPEN, XXX-10 = SLIGHTLY OPEN, IRREGULAR.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 18

VARIETY OR SEL. NO.	T.M.	1000 KNT.	KERNEL SIZE			WHT. MIN.	WHT. PRO.	KERN. CLR.	ELR. EXT.	ELR. MIN.	ELR. PRO.	MILG. CLR.	MILG. PER.	MIX. ABS.	MIX. BAK.	TIME	MIX. CHAR.	CRUMB COLOR	CRUMB GRIN	LOAF VOL.	BAKE EVAL.	GEN. EVAL.	MINOR DEFICIENCY										MAJOR DEFICIENCY	
			LG	MED	SM																		CC.	BAKE VOL.	BAKE EVAL.	GEN. EVAL.	KW	LG	SM	MT	DO	GR	LV	BA
QUALITY DATA FOR UNIFORM BLENDS - REGULAR MIX																																		
BONANZA	60-8	28-6	17	77	6	1-58	14-5	5	61-0	0-49	14-0	1	5	61-4	5	61-4	4-00	4	101-8	91-99	950	4	2	KW	LG	SM	H65	BA*						
BOUNDY 208	61-3	29-8	22	73	3	1-59	14-5	5	61-2	0-46	13-8	1	3	61-7	3	61-7	2-25	3	100-0	92-99	1010	2	3	KW	DO									
BOUNDY 209	61-3	29-8	22	73	3	1-59	14-5	5	61-2	0-46	13-8	1	3	61-7	3	61-7	2-25	3	100-0	92-99	1010	2	3	KW	DO									
ERA	61-5	30-1	30	65	3	1-61	13-1	8	63-5	0-54	12-4	1	8	59-9	4	59-9	3-25	3	100-0	90-99	905	2	4	SH	DO									MP H65 BA
FLETCHER	60-6	33-4	44	53	3	1-58	14-2	5	62-4	0-48	13-5	1	5	61-6	3	61-6	2-75	4	101-5	87-99	945	2	4	MP	H65									
JUSTIN	63-9	32-8	40	58	2	1-68	15-6	2	61-6	0-44	15-1	1	2	64-0	4	64-0	3-25	3	102-6	92-99	995	4	3	DO										
MARQUIS	60-9	30-0	28	69	3	1-67	14-8	3	61-3	0-49	14-4	1	5	61-9	3	61-9	2-50	3	100-0	97-99	960	4	2	H65	DO									
MENAPHA	60-7	30-6	29	69	2	1-61	15-2	3	61-0	0-48	14-8	1	4	61-3	2	61-4	2-25	4	99-0	85-09	965	4	2	H65	BA									
SEIKIN	58-9	34-5	32	65	3	1-66	14-7	3	63-5	0-47	14-3	1	2	61-2	3	61-2	2-50	5	98-2	93-99	920	6	3	MP	BA									
WALDRON	60-7	33-9	44	54	2	1-66	15-2	2	63-2	0-47	14-5	1	3	62-2	4	62-2	2-75	3	100-0	92-99	1015	4	3	DO										
MS 1651-E	60-8	28-1	14	80	6	1-62	14-1	7	63-0	0-47	13-4	1	4	60-6	6	60-6	4-25	3	101-0	85-07	880	8	1	KW	LG	SM	MT	DO	GR	LV	BA			
MS 1809	61-4	31-4	35	61	4	1-52	14-5	3	63-0	0-47	13-7	1	2	61-4	4	61-4	3-00	3	100-0	90-09	960	6	2	BA	DO									
MS 497	61-2	35-4	52	46	2	1-65	14-9	2	61-7	0-46	14-2	1	4	62-2	4	62-2	2-50	4	101-5	82-07	950	3	3	GR	DO									
MS 498	61-0	49-7	61-0	35-2	49	3	1-62	14-6	3	61-7	0-43	13-7	1	2	61-6	5	61-6	4-00	3	100-0	77-07	900	5	3	DO	GR	LV							
MS 499	61-2	35-4	53	44	3	1-60	14-3	4	62-8	0-43	13-5	1	2	61-2	4	61-3	3-25	4	100-0	89-99	960	4	3	MP	BA									
MS 501	60-6	36-0	55	42	3	1-67	15-4	2	60-8	0-51	14-8	2	8	63-5	3	63-5	2-50	4	100-0	90-99	1010	2	1	DO										
MS 502	60-9	35-1	52	46	2	1-65	14-9	2	63-4	0-47	14-2	1	3	62-3	4	62-3	2-75	3	99-0	89-99	990	4	3	DO										
MS 503	61-3	30-0	28	69	3	1-66	14-7	3	63-4	0-47	14-3	1	2	62-9	4	62-9	2-50	3	100-0	92-99	960	4	2	MP	BA									
MS 70Y14	61-7	33-1	28	68	4	1-58	14-4	5	63-4	0-45	13-8	1	2	62-9	9	62-9	6-00	2	101-0	82-10	940	8	1	DO										HT OO
MS 271	61-6	32-2	27	67	6	1-57	14-1	6	62-8	0-46	13-6	1	2	63-1	6	63-1	4-00	3	100-0	92-99	975	5	3	SM	MP	BA								
MS 1678-1-6-9	60-0	31-2	35	62	3	1-58	14-4	5	61-7	0-42	13-9	1	2	63-1	6	63-1	4-25	3	102-0	89-99	1020	5	3	MP	HT	OO								

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.

2/ 148 MOISTURE BASIS.

174 INCLUSIVE DASHES
37/1 = VERY SATISFACTORY, 2 = SATISFACTORY-QUESTIONABLE, 3 = SATISFACTORY, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.
5/ REFER TO REFERENCE MIXOGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK --- 11 = VERY STRONG)

1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE
7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.
REFER TO REFERENCE PATTERNS FOR NUMERICAL CURVE PATTERNS. (1 = VERY WEAK, 11 = VERY STRONG)

1 = VERY GRAY.
XX-1 = MILL GRAY.
XX-2 = GRAY.
XX-3 = VERY CREAMY.
XX-4 = PLATABLE-ELASTIC.
XX-5 = PLATABLE-FLEXIBLE.
XX-6 = MEAN-P LAMBLE.
XX-7 = PLATABLE-WEAK.
XX-8 = WEAK.
XX-9 = VERY WEAK.
XX-10 = SLIGHTLY WEAK.

7/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = GRAY, XXX-2 = OULL GRAY, XXX-1 = VERY GRAY.

8/ XXX-00 = SOGGY, XXX-01 = THICK WALL OR HARSH, XXX-03 = CLOSE, XXX-05 = OPEN, IRREGULAR, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR, XXX-09 = OPEN, XXX-10 = IRREGULAR, XXX-30 = SLIGHTLY OPEN, IRREGULAR, XXX-50 = SLIGHTLY IRREGULAR, OPEN, XXX-70 = SLIGHTLY OPEN, XXX-90 = SLIGHTLY IRREGULAR, XXX-99 = NORMAL.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

[illegible]

TABLE 19

QUALITY DATA ON UNIFORM REGIONAL NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T-W W/LB.	1000 KG.	KEBREL SIZE LG MED SM	WHT. MIN.	WHT. MAX.	HT. PSO.	KERN. CHAS.	FLR. EXT.	FLR. MIN.	FLR. MAX.	PRO. CHG.	WLG. PER.	MIX. PAT.	MIX. PAT.	BAKE ANS.	MIX. TIME	COLUGH CHAR.	CRUMB CLUR	CRUMB GRAIN	LEAF MAKE VOL.	GEN. EVAL.	MINOR DEFICIENCY	MAJOR DEFICIENCY	
STATE AVERAGES FOR MINNESOTA																							CC.	
CHRIS	62.7	30.3	27	71	2	1.71	14.7	3	59.9	0.46	14.4	2	3	62.3	3	62.3	2.75	4	101.7	91.98	183	2	4	KW LG
JUSTIN	61.3	34.0	56	43	1	1.81	15.5	2	61.1	0.44	15.6	1	2	61.9	5	65.6	3.91	3	100.2	89.98	187	4	3	OO
SELKIRK	59.8	35.2	43	55	2	1.94	14.1	5	63.0	0.47	13.7	1	2	61.0	2	61.0	2.91	5	101.3	91.32	176	7	2	WP OO
STATE AVERAGES FOR MONTANA																								
CHRIS	59.3	29.4	8	83	9	1.56	15.8	3	61.1	0.46	15.4	1	3	61.4	4	61.4	3.16	4	102.1	91.65	191	2	4	KW LG
JUSTIN	59.3	29.8	22	72	6	1.61	15.8	2	62.3	0.43	15.5	1	2	63.6	5	63.6	4.16	4	100.2	87.58	192	2	4	TW BA
SELKIRK	56.5	30.4	18	75	7	1.54	14.9	4	62.3	0.47	14.6	1	3	60.8	3	60.8	3.00	5	99.6	91.98	188	4	3	TW BA
STATE AVERAGES FOR NORTH DAKOTA																								
CHRIS	62.5	32.1	47	52	1	1.47	14.5	3	64.1	0.46	14.3	1	2	62.6	3	62.6	3.04	4	101.4	91.78	179	2	4	KW
JUSTIN	61.8	37.0	61	38	1	1.61	15.3	2	62.9	0.45	14.7	1	2	64.5	5	64.5	3.79	4	100.4	90.98	180	2	4	WP
SELKIRK	60.5	37.4	45	50	1	1.60	14.4	3	64.4	0.49	14.0	1	3	62.2	2	62.2	2.94	5	100.0	90.78	179	3	3	M65
STATE AVERAGES FOR SOUTH DAKOTA																								
CHRIS	60.8	26.5	11	85	4	1.83	16.6	3	62.8	0.47	16.3	1	3	63.7	3	63.7	2.75	5	101.3	91.98	193	2	4	KW LG
JUSTIN	61.3	30.1	30	68	2	1.82	16.3	2	62.3	0.44	15.6	1	2	63.0	4	63.0	3.37	4	101.3	91.98	185	4	3	CO
SELKIRK	59.5	31.4	19	78	3	1.86	16.0	3	64.0	0.48	15.6	1	3	61.8	3	61.8	2.87	6	100.0	91.98	181	5	2	TW BA OO
STATE AVERAGES FOR WASHINGTON																								
CHRIS	59.0	27.8	13	85	2	1.58	15.7	3	57.3	0.53	15.5	2	4	61.0	2	61.0	2.00	6	101.5	SC.00	175	2	3	LG M65
JUSTIN	59.5	30.3	33	65	2	1.53	15.5	2	57.3	0.50	15.3	2	3	62.3	3	62.3	3.00	6	100.5	SC.00	170	2	4	BA
SELKIRK	57.5	30.6	26	72	2	1.50	14.8	3	61.9	0.48	14.4	1	1	59.3	2	59.3	2.00	6	102.6	SC.00	177	4	3	BA
STATE AVERAGES FOR WISCONSIN																								
CHRIS	61.5	25.9	20	77	3	2.01	15.7	3	58.8	0.50	15.3	1	2	64.2	4	64.2	3.50	3	102.0	51.98	198	4	3	OO
JUSTIN	60.0	31.2	29	68	3	2.13	16.0	2	56.9	0.51	15.7	2	5	64.7	5	64.7	4.75	4	100.0	90.98	186	2	3	WM EX
SELKIRK	58.5	32.1	30	67	3	1.89	14.6	4	55.8	0.50	14.1	1	2	60.3	3	60.3	3.25	5	100.0	89.98	182	4	1	TW WP OO
STATE AVERAGES FOR WYOMING																								
CHRIS	63.0	28.6	7	90	3	1.51	15.3	3	63.6	0.40	14.6	1	3	61.9	2	61.9	2.25	3	104.7	52.50	195	4	3	KW LG OO
JUSTIN	62.5	31.6	15	76	5	1.61	14.6	2	65.9	0.39	13.6	1	3	62.3	3	62.3	3.25	4	99.0	88.98	181	2	4	WP
SELKIRK	62.5	32.8	22	73	5	1.57	13.7	4	66.5	0.37	13.0	1	1	60.0	3	60.0	3.50	4	102.0	87.08	185	4	3	WP BA
STATE AVERAGES OF THE THREE VARIETIES																								
MINNESOTA	61.3	33.2	42	56	2	1.79	14.9	3	61.3	0.46	14.6	1	2	63.0	3	63.0	3.19	4	101.1	51.10	183	2	4	TW KW LG SM
MONTANA	58.4	30.2	56	77	1	1.57	15.5	4	61.9	0.45	15.1	1	2	61.9	4	61.9	3.44	4	100.6	90.54	190	2	4	WM
NORTH DAKOTA	61.3	34.0	56	43	1	1.81	15.5	2	61.1	0.44	15.6	1	2	61.9	5	65.6	3.91	3	100.2	89.98	187	4	3	WP
SOUTH DAKOTA	60.2	29.4	20	77	3	1.86	14.7	3	63.0	0.47	15.8	1	2	63.1	3	63.1	3.26	5	100.7	90.52	179	2	4	WM
WASHINGTON	58.7	25.6	24	74	2	1.54	15.3	3	58.8	0.51	15.1	2	6	60.9	2	60.9	2.93	6	101.5	SC.00	174	6	1	TW EX BA OO
WISCONSIN	60.0	31.0	26	71	3	2.01	15.4	3	57.8	0.50	15.0	1	7	63.1	4	63.1	3.83	4	100.7	90.98	189	2	2	M65
WYOMING	62.7	31.0	16	80	4	1.57	14.5	4	65.3	0.39	13.7	1	1	61.4	3	61.4	3.00	4	101.9	85.52	187	2	4	LG
CROP YEAR AVERAGE																								
1970 AVERAGE	59.9	27.0	22	72	6	1.72	16.1	3	59.7	0.48	15.6	1	3	64.1	4	64.1	3.75	5	100.5	88.29	188	2	4	KW
1971 AVERAGE	60.4	32.0	32	63	3	1.65	15.2	2	62.3	0.46	14.8	1	2	62.6	3	62.6	3.17	4	100.8	90.88	184	2	4	KW
1/ CLEAN DRY - SUBTRACT 1 LB./BU. PER DOCKAGE-FREE T-W.																								
2/ 14% MOISTURE BASIS.																								
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.																								
4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.																								
5/ 1 = VERY WEAK, 2 = WEAK, 3 = WEAK-MEAK, 4 = MEAK, 5 = MEAK-PLIABLE, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY WEAK, 30 = WEAK.																								
6/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
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11/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
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14/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
15/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
16/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
17/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
18/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
19/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								
20/ 1 = VERY GRAY, 2 = GRAY, 3 = GRAY, 4 = GRAY, 5 = GRAY, 6 = GRAY, 7 = GRAY, 8 = GRAY, 9 = GRAY, 10 = GRAY, 11 = GRAY, 12 = GRAY, 13 = GRAY, 14 = GRAY, 15 = GRAY, 16 = GRAY, 17 = GRAY, 18 = GRAY, 19 = GRAY, 20 = GRAY.																								

1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR CCKAGE-FREE T-W.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SCFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE MIXOGRAMS FOR NUMERICAL CURVE PATTERNS. 11 = VERY WEAK --- 11 = VERY STRONG

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY OEO, 30 = OEO.

7/ XXX.9 = BRIGHT WHITE, XXX.8 = WHITE, XXX.7 = SLIGHTLY CREAMY, XXX.6 = BRIGHT CREAMY, XXX.5 = CREAMY, XXX.4 = VERY CREAMY, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY.

8/ XXX.50 = SOFT, XXX.40 = FICKLE OR HAMSH, XXX.30 = CLOSE, XXX.20 = OPEN, XXX.10 = SLIGHTLY IRREGULAR, XXX.09 = OPEN, XXX.08 = OPEN, XXX.07 = IRREGULAR, XXX.06 = OPEN, XXX.05 = OPEN, XXX.04 = OPEN, XXX.03 = OPEN, XXX.02 = OPEN, XXX.01 = OPEN, XXX.00 = OPEN.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 20

QUALITY DATA ON SAWFLY NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T.M. #/BU.	1000 KWT.	KERNEL SIZE LG MED SM	W.T. #/BU.	W.T. MIN.	KERN. CHAR.	FLR. EXT.	FLR. MIN.	FLR. PRO.	MLG. PER.	MLG. CHAR.	MIX. ABS.	MIX. PAT.	BAKE ABS.	MIX. TIME	OILY CHAR.	CRUMB COLOR	CRUMB GRAIN	LOAF VOL.	BAKE EVAL.	GEN. VAL.	MINOR DEFICIENCY										MAJOR DEFICIENCY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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1/ CLEAN ORY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.M.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE MIXTURES FOR NUMERICAL CURVE PATTERNS. (1 = VERY WEAK, 11 = VERY STRONG)

6/ 1 = BUCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAD, 30 = DEAD.

7/ XXX.9 = BRIGHT WHITE, XXX.8 = WHITE, XXX.7 = SLIGHTLY CREAMY, XXX.6 = BRIGHT CREAMY, XXX.5 = CREAMY, XXX.4 = VERY CREAMY, XXX.3 = GRAY, XXX.2 = DULL GRAY, XXX.1 = VERY GRAY.

8/ XXX.00 = SOGGY, XXX.01 = THICK MALL OR HARSH, XXX.02 = CLOSE, XXX.03 = OPEN, XXX.04 = SLIGHTLY OPEN, XXX.05 = OPEN, XXX.06 = OPEN, XXX.07 = OPEN, XXX.08 = OPEN, XXX.09 = OPEN, XXX.10 = OPEN, XXX.11 = OPEN, XXX.12 = OPEN, XXX.13 = OPEN, XXX.14 = OPEN, XXX.15 = OPEN, XXX.16 = OPEN, XXX.17 = OPEN, XXX.18 = OPEN, XXX.19 = OPEN, XXX.20 = OPEN, XXX.21 = OPEN, XXX.22 = OPEN, XXX.23 = OPEN, XXX.24 = OPEN, XXX.25 = OPEN, XXX.26 = OPEN, XXX.27 = OPEN, XXX.28 = OPEN, XXX.29 = OPEN, XXX.30 = OPEN, XXX.31 = OPEN, XXX.32 = OPEN, XXX.33 = OPEN, XXX.34 = OPEN, XXX.35 = OPEN, XXX.36 = OPEN, XXX.37 = OPEN, XXX.38 = OPEN, XXX.39 = OPEN, XXX.40 = OPEN, XXX.41 = OPEN, XXX.42 = OPEN, XXX.43 = OPEN, XXX.44 = OPEN, XXX.45 = OPEN, XXX.46 = OPEN, XXX.47 = OPEN, XXX.48 = OPEN, XXX.49 = OPEN, XXX.50 = OPEN, XXX.51 = OPEN, XXX.52 = OPEN, XXX.53 = OPEN, XXX.54 = OPEN, XXX.55 = OPEN, XXX.56 = OPEN, XXX.57 = OPEN, XXX.58 = OPEN, XXX.59 = OPEN, XXX.60 = OPEN, XXX.61 = OPEN, XXX.62 = OPEN, XXX.63 = OPEN, XXX.64 = OPEN, XXX.65 = OPEN, XXX.66 = OPEN, XXX.67 = OPEN, XXX.68 = OPEN, XXX.69 = OPEN, XXX.70 = OPEN, XXX.71 = OPEN, XXX.72 = OPEN, XXX.73 = OPEN, XXX.74 = OPEN, XXX.75 = OPEN, XXX.76 = OPEN, XXX.77 = OPEN, XXX.78 = OPEN, XXX.79 = OPEN, XXX.80 = OPEN, XXX.81 = OPEN, XXX.82 = OPEN, XXX.83 = OPEN, XXX.84 = OPEN, XXX.85 = OPEN, XXX.86 = OPEN, XXX.87 = OPEN, XXX.88 = OPEN, XXX.89 = OPEN, XXX.90 = OPEN, XXX.91 = OPEN, XXX.92 = OPEN, XXX.93 = OPEN, XXX.94 = OPEN, XXX.95 = OPEN, XXX.96 = OPEN, XXX.97 = OPEN, XXX.98 = OPEN, XXX.99 = OPEN, XXX.100 = OPEN.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 21
QUALITY DATA ON SAWFLY NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T-W #/BU.	1000 KWT.	KIBEL SIZE LG MED SM	WPT. MIN.	WPT. 2L	KERN. CH.	FLR. EXT.	FLR. MIN-3	FLR. PRO.	MLG. CH.	MLG. PER.	MIX. ABS.	MIX. PAT.	BAKE ABS.	TIME MIN.	MIX. CHAR.	CRUMB COLOR	CRUMB GRAIN	LCAF VOL.	BAKE EVAL.	GEN.	MAJOR DEFICIENCY	
																							3L
REPLICATE 1 - FARGO, NORTH DAKOTA																							
CHINOOK	61.0	31.0	28	69	3	1.76	14.4	2	60.2	0.51	14.1	2	62.3	2	62.3	2.75	5	100.0	94.99	172	4	3	CO
CHRIS	62.5	28.1	15	84	1	1.67	13.4	3	61.1	0.49	13.0	1	63.8	3	63.8	3.00	4	101.0	92.99	181	2	4	KW LG
RESCUE	60.0	25.5	54	88	6	2.01	14.0	8	58.3	0.54	13.3	3	60.0	2	60.0	3.00	4	101.0	93.99	178	5	1	KW SM M65
THATCHER	62.5	30.4	30	69	1	1.64	14.0	2	61.8	0.52	13.5	1	59.0	3	59.0	3.50	6	102.0	92.99	165	8	1	OD LV
MT 7020	58.0	24.3	2	90	8	1.80	12.3	8	59.2	0.51	11.7	2	58.7	2	58.7	3.25	7	102.5	89.99	157	8	1	TW KW SM LV
MT 7025	57.5	25.6	11	85	4	1.76	13.1	8	58.5	0.56	12.7	3	59.7	3	59.7	4.00	6	102.7	89.99	171	7	1	KW LG OD
MT 7026	60.0	29.8	27	71	2	1.70	14.2	3	59.9	0.50	13.9	2	60.3	2	60.3	2.75	7	103.7	91.99	158	8	1	BA LV
S 683	62.0	31.0	21	76	3	1.71	14.2	3	60.1	0.50	13.9	2	61.9	3	61.9	3.25	4	98.0	87.99	183	2	4	EX M65
S 686	61.5	43.9	48	50	2	1.62	14.2	2	61.3	0.47	13.8	1	61.6	3	61.6	3.25	4	100.0	88.99	187	2	4	OD
S 6862	63.0	38.0	62	37	1	1.76	14.5	2	60.1	0.46	13.7	2	61.9	2	61.9	3.00	4	102.8	85.99	186	2	4	EX
S 6877	61.0	31.4	25	73	2	1.86	15.1	2	59.4	0.51	14.6	2	62.5	3	62.5	2.75	6	99.0	94.99	171	4	3	OD
S 6763	62.0	35.3	40	58	2	1.72	13.9	3	57.7	0.55	13.6	3	60.7	2	60.7	2.75	6	101.0	50.99	168	6	1	EX M65 BA OD
S 6765	61.5	38.5	58	40	2	1.70	14.1	2	56.3	0.57	13.9	3	61.9	3	61.9	3.50	6	100.0	91.99	171	4	1	OD
S 6851	63.0	34.4	57	42	1	1.70	14.4	2	61.0	0.47	13.9	1	60.0	4	60.0	3.50	6	100.5	94.99	171	7	2	OD
S 6855	59.5	34.5	65	32	3	1.77	14.2	3	57.1	0.53	14.0	3	60.7	3	60.7	3.25	6	102.0	93.99	172	6	1	TW BA OD
01-484	61.5	31.9	60	39	1	1.70	15.2	2	60.6	0.52	15.0	1	65.3	4	65.3	4.00	5	101.0	92.99	175	3	3	OD
068-159	61.0	29.8	24	74	2	1.82	14.4	2	59.4	0.51	14.0	2	64.7	4	64.7	3.25	5	100.5	92.99	173	3	3	OD
7530-411	62.0	30.9	46	53	1	1.68	14.6	8	60.7	0.53	13.9	1	62.3	3	62.3	3.25	5	102.0	81.99	168	5	2	OD
7823-112	57.0	28.2	10	86	4	2.20	13.9	8	58.2	0.50	13.7	5	64.2	4	64.2	4.25	5	90.3	86.99	181	4	1	PC OD CCL
8068-40	60.5	26.8	6	90	4	1.79	13.3	8	56.4	0.51	12.9	3	63.7	3	63.7	3.25	6	102.7	89.99	162	5	1	KW WP OD LV
1/ CLEAN CRY - SUBTRACT 1 LG./BU. FOR DOCKAGE-FREE T.W.																							
2/ 14% MOISTURE BASIS.																							
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.																							
4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.																							
5/ REFER TO REFERENCE PLOTGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK, 11 = VERY STRONG)																							
6/ XXX-000 = ELASTIC, XXX-001 = PLIABLE, XXX-002 = PLIABLE, XXX-003 = PLIABLE, XXX-004 = PLIABLE, XXX-005 = PLIABLE, XXX-006 = PLIABLE, XXX-007 = PLIABLE, XXX-008 = PLIABLE, XXX-009 = PLIABLE, XXX-010 = PLIABLE, XXX-011 = PLIABLE, XXX-012 = PLIABLE, XXX-013 = PLIABLE, XXX-014 = PLIABLE, XXX-015 = PLIABLE, XXX-016 = PLIABLE, XXX-017 = PLIABLE, XXX-018 = PLIABLE, XXX-019 = PLIABLE, XXX-020 = PLIABLE, XXX-021 = PLIABLE, XXX-022 = PLIABLE, XXX-023 = PLIABLE, XXX-024 = PLIABLE, XXX-025 = PLIABLE, XXX-026 = PLIABLE, XXX-027 = PLIABLE, XXX-028 = PLIABLE, XXX-029 = PLIABLE, XXX-030 = PLIABLE, XXX-031 = PLIABLE, XXX-032 = PLIABLE, XXX-033 = PLIABLE, XXX-034 = PLIABLE, XXX-035 = PLIABLE, XXX-036 = PLIABLE, XXX-037 = PLIABLE, XXX-038 = PLIABLE, XXX-039 = PLIABLE, XXX-040 = PLIABLE, XXX-041 = PLIABLE, XXX-042 = PLIABLE, XXX-043 = PLIABLE, XXX-044 = PLIABLE, XXX-045 = PLIABLE, XXX-046 = PLIABLE, XXX-047 = PLIABLE, XXX-048 = PLIABLE, XXX-049 = PLIABLE, XXX-050 = PLIABLE, XXX-051 = PLIABLE, XXX-052 = PLIABLE, XXX-053 = PLIABLE, XXX-054 = PLIABLE, XXX-055 = PLIABLE, XXX-056 = PLIABLE, XXX-057 = PLIABLE, XXX-058 = PLIABLE, XXX-059 = PLIABLE, XXX-060 = PLIABLE, XXX-061 = PLIABLE, XXX-062 = PLIABLE, XXX-063 = PLIABLE, XXX-064 = PLIABLE, XXX-065 = PLIABLE, XXX-066 = PLIABLE, XXX-067 = PLIABLE, XXX-068 = PLIABLE, XXX-069 = PLIABLE, XXX-070 = PLIABLE, XXX-071 = PLIABLE, XXX-072 = PLIABLE, XXX-073 = PLIABLE, XXX-074 = PLIABLE, XXX-075 = PLIABLE, XXX-076 = PLIABLE, XXX-077 = PLIABLE, XXX-078 = PLIABLE, XXX-079 = PLIABLE, XXX-080 = PLIABLE, XXX-081 = PLIABLE, XXX-082 = PLIABLE, XXX-083 = PLIABLE, XXX-084 = PLIABLE, XXX-085 = PLIABLE, XXX-086 = PLIABLE, XXX-087 = PLIABLE, XXX-088 = PLIABLE, XXX-089 = PLIABLE, XXX-090 = PLIABLE, XXX-091 = PLIABLE, XXX-092 = PLIABLE, XXX-093 = PLIABLE, XXX-094 = PLIABLE, XXX-095 = PLIABLE, XXX-096 = PLIABLE, XXX-097 = PLIABLE, XXX-098 = PLIABLE, XXX-099 = PLIABLE, XXX-100 = PLIABLE, XXX-101 = PLIABLE, XXX-102 = PLIABLE, XXX-103 = PLIABLE, XXX-104 = PLIABLE, XXX-105 = PLIABLE, XXX-106 = PLIABLE, XXX-107 = PLIABLE, XXX-108 = PLIABLE, XXX-109 = PLIABLE, XXX-110 = PLIABLE, XXX-111 = PLIABLE, XXX-112 = PLIABLE, XXX-113 = PLIABLE, XXX-114 = PLIABLE, XXX-115 = PLIABLE, XXX-116 = PLIABLE, XXX-117 = PLIABLE, XXX-118 = PLIABLE, XXX-119 = PLIABLE, XXX-120 = PLIABLE, XXX-121 = PLIABLE, XXX-122 = PLIABLE, XXX-123 = PLIABLE, XXX-124 = PLIABLE, XXX-125 = PLIABLE, XXX-126 = PLIABLE, XXX-127 = PLIABLE, XXX-128 = PLIABLE, XXX-129 = PLIABLE, XXX-130 = PLIABLE, XXX-131 = PLIABLE, XXX-132 = PLIABLE, XXX-133 = PLIABLE, XXX-134 = PLIABLE, XXX-135 = PLIABLE, XXX-136 = PLIABLE, XXX-137 = PLIABLE, XXX-138 = PLIABLE, XXX-139 = PLIABLE, XXX-140 = PLIABLE, XXX-141 = PLIABLE, XXX-142 = PLIABLE, XXX-143 = PLIABLE, XXX-144 = PLIABLE, XXX-145 = PLIABLE, XXX-146 = PLIABLE, XXX-147 = PLIABLE, XXX-148 = PLIABLE, XXX-149 = PLIABLE, XXX-150 = PLIABLE, XXX-151 = PLIABLE, XXX-152 = PLIABLE, XXX-153 = PLIABLE, XXX-154 = PLIABLE, XXX-155 = PLIABLE, XXX-156 = PLIABLE, XXX-157 = 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PLIABLE, XXX-263 = PLIABLE, XXX-264 = PLIABLE, XXX-265 = PLIABLE, XXX-266 = PLIABLE, XXX-267 = PLIABLE, XXX-268 = PLIABLE, XXX-269 = PLIABLE, XXX-270 = PLIABLE, XXX-271 = PLIABLE, XXX-272 = PLIABLE, XXX-273 = PLIABLE, XXX-274 = PLIABLE, XXX-275 = PLIABLE, XXX-276 = PLIABLE, XXX-277 = PLIABLE, XXX-278 = PLIABLE, XXX-279 = PLIABLE, XXX-280 = PLIABLE, XXX-281 = PLIABLE, XXX-282 = PLIABLE, XXX-283 = PLIABLE, XXX-284 = PLIABLE, XXX-285 = PLIABLE, XXX-286 = PLIABLE, XXX-287 = PLIABLE, XXX-288 = PLIABLE, XXX-289 = PLIABLE, XXX-290 = PLIABLE, XXX-291 = PLIABLE, XXX-292 = PLIABLE, XXX-293 = PLIABLE, XXX-294 = PLIABLE, XXX-295 = PLIABLE, XXX-296 = PLIABLE, XXX-297 = PLIABLE, XXX-298 = PLIABLE, XXX-299 = PLIABLE, XXX-300 = PLIABLE, XXX-301 = PLIABLE, XXX-302 = PLIABLE, XXX-303 = PLIABLE, XXX-304 = PLIABLE, XXX-305 = PLIABLE, XXX-306 = PLIABLE, XXX-307 = PLIABLE, XXX-308 = PLIABLE, XXX-309 = PLIABLE, XXX-310 = PLIABLE, XXX-311 = PLIABLE, XXX-312 = PLIABLE, XXX-313 = PLIABLE, XXX-314 = PLIABLE, 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PLIABLE, XXX-368 = PLIABLE, XXX-369 = PLIABLE, XXX-370 = PLIABLE, XXX-371 = PLIABLE, XXX-372 = PLIABLE, XXX-373 = PLIABLE, XXX-374 = PLIABLE, XXX-375 = PLIABLE, XXX-376 = PLIABLE, XXX-377 = PLIABLE, XXX-378 = PLIABLE, XXX-379 = PLIABLE, XXX-380 = PLIABLE, XXX-381 = PLIABLE, XXX-382 = PLIABLE, XXX-383 = PLIABLE, XXX-384 = PLIABLE, XXX-385 = PLIABLE, XXX-386 = PLIABLE, XXX-387 = PLIABLE, XXX-388 = PLIABLE, XXX-389 = PLIABLE, XXX-390 = PLIABLE, XXX-391 = PLIABLE, XXX-392 = PLIABLE, XXX-393 = PLIABLE, XXX-394 = PLIABLE, XXX-395 = PLIABLE, XXX-396 = PLIABLE, XXX-397 = PLIABLE, XXX-398 = PLIABLE, XXX-399 = PLIABLE, XXX-400 = PLIABLE, XXX-401 = PLIABLE, XXX-402 = PLIABLE, XXX-403 = PLIABLE, XXX-404 = PLIABLE, XXX-405 = PLIABLE, XXX-406 = PLIABLE, XXX-407 = PLIABLE, XXX-408 = PLIABLE, XXX-409 = PLIABLE, XXX-410 = PLIABLE, XXX-411 = PLIABLE, XXX-412 = PLIABLE, XXX-413 = PLIABLE, XXX-414 = PLIABLE, XXX-415 = PLIABLE, XXX-416 = PLIABLE, XXX-417 = PLIABLE, XXX-418 = PLIABLE, XXX-419 = PLIABLE, XXX-420 = PLIABLE, XXX-421 = PLIABLE, XXX-422 = PLIABLE, XXX-423 = PLIABLE, XXX-424 = PLIABLE, XXX-425 = PLIABLE, XXX-426 = PLIABLE, XXX-427 = PLIABLE, XXX-428 = PLIABLE, XXX-429 = PLIABLE, XXX-430 = PLIABLE, XXX-431 = PLIABLE, XXX-432 = PLIABLE, XXX-433 = PLIABLE, XXX-434 = PLIABLE, XXX-435 = PLIABLE, XXX-436 = PLIABLE, XXX-437 = PLIABLE, XXX-438 = PLIABLE, XXX-439 = PLIABLE, XXX-440 = PLIABLE, XXX-441 = PLIABLE, XXX-442 = PLIABLE, XXX-443 = PLIABLE, XXX-444 = PLIABLE, XXX-445 = PLIABLE, XXX-446 = PLIABLE, XXX-447 = PLIABLE, XXX-448 = PLIABLE, XXX-449 = PLIABLE, XXX-450 = PLIABLE, XXX-451 = PLIABLE, XXX-452 = PLIABLE, XXX-453 = PLIABLE, XXX-454 = PLIABLE, XXX-455 = PLIABLE, XXX-456 = PLIABLE, XXX-457 = PLIABLE, XXX-458 = PLIABLE, XXX-459 = PLIABLE, XXX-460 = PLIABLE, XXX-461 = PLIABLE, XXX-462 = PLIABLE, XXX-463 = PLIABLE, XXX-464 = PLIABLE, XXX-465 = PLIABLE, XXX-466 = PLIABLE, XXX-467 = PLIABLE, XXX-468 = PLIABLE, XXX-469 = PLIABLE, XXX-470 = PLIABLE, XXX-471 = PLIABLE, XXX-472 = 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XXX-525 = PLIABLE, XXX-526 = PLIABLE, XXX-527 = PLIABLE, XXX-528 = PLIABLE, XXX-529 = PLIABLE, XXX-530 = PLIABLE, XXX-531 = PLIABLE, XXX-532 = PLIABLE, XXX-533 = PLIABLE, XXX-534 = PLIABLE, XXX-535 = PLIABLE, XXX-536 = PLIABLE, XXX-537 = PLIABLE, XXX-538 = PLIABLE, XXX-539 = PLIABLE, XXX-540 = PLIABLE, XXX-541 = PLIABLE, XXX-542 = PLIABLE, XXX-543 = PLIABLE, XXX-544 = PLIABLE, XXX-545 = PLIABLE, XXX-546 = PLIABLE, XXX-547 = PLIABLE, XXX-548 = PLIABLE, XXX-549 = PLIABLE, XXX-550 = PLIABLE, XXX-551 = PLIABLE, XXX-552 = PLIABLE, XXX-553 = PLIABLE, XXX-554 = PLIABLE, XXX-555 = PLIABLE, XXX-556 = PLIABLE, XXX-557 = PLIABLE, XXX-558 = PLIABLE, XXX-559 = PLIABLE, XXX-560 = PLIABLE, XXX-561 = PLIABLE, XXX-562 = PLIABLE, XXX-563 = PLIABLE, XXX-564 = PLIABLE, XXX-565 = PLIABLE, XXX-566 = PLIABLE, XXX-567 = PLIABLE, XXX-568 = PLIABLE, XXX-569 = PLIABLE, XXX-570 = PLIABLE, XXX-571 = PLIABLE, XXX-572 = PLIABLE, XXX-573 = PLIABLE, XXX-574 = PLIABLE, XXX-575 = PLIABLE, XXX-576 = PLIABLE, XXX-577 = PLIABLE, XXX-578 = PLIABLE, XXX-579 = PLIABLE, XXX-580 = PLIABLE, XXX-581 = PLIABLE, XXX-582 = PLIABLE, XXX-583 = PLIABLE, XXX-584 = PLIABLE, XXX-585 = PLIABLE, XXX-586 = PLIABLE, XXX-587 = PLIABLE, XXX-588 = PLIABLE, XXX-589 = PLIABLE, XXX-590 = PLIABLE, XXX-591 = PLIABLE, XXX-592 = PLIABLE, XXX-593 = PLIABLE, XXX-594 = PLIABLE, XXX-595 = PLIABLE, XXX-596 = PLIABLE, XXX-597 = PLIABLE, XXX-598 = PLIABLE, XXX-599 = PLIABLE, XXX-600 = PLIABLE, XXX-601 = PLIABLE, XXX-602 = PLIABLE, XXX-603 = PLIABLE, XXX-604 = PLIABLE, XXX-605 = PLIABLE, XXX-606 = PLIABLE, XXX-607 = PLIABLE, XXX-608 = PLIABLE, XXX-609 = PLIABLE, XXX-610 = PLIABLE, XXX-611 = PLIABLE, XXX-612 = PLIABLE, XXX-613 = PLIABLE, XXX-614 = PLIABLE, XXX-615 = PLIABLE, XXX-616 = PLIABLE, XXX-617 = PLIABLE, XXX-618 = PLIABLE, XXX-619 = PLIABLE, XXX-620 = PLIABLE, XXX-621 = PLIABLE, XXX-622 = PLIABLE, XXX-623 = PLIABLE, XXX-624 = PLIABLE, XXX-625 = PLIABLE, XXX-626 = PLIABLE, XXX-627 = PLIABLE, XXX-628 = PLIABLE, XXX-629 = PLIABLE, XXX-630 = PLIABLE, XXX-631 = PLIABLE, XXX-632 = PLIABLE, XXX-633 = PLIABLE, XXX-634 = PLIABLE, XXX-635 = PLIABLE, XXX-636 = PLIABLE, XXX-637 = PLIABLE, XXX-638 = PLIABLE, XXX-639 = PLIABLE, XXX-640 = PLIABLE, XXX-641 = PLIABLE, XXX-642 = PLIABLE, XXX-643 = PLIABLE, XXX-644 = PLIABLE, XXX-645 = PLIABLE, XXX-646 = PLIABLE, XXX-647 = PLIABLE, XXX-648 = PLIABLE, XXX-649 = PLIABLE, XXX-650 = PLIABLE, XXX-651 = PLIABLE, XXX-652 = PLIABLE, XXX-653 = PLIABLE, XXX-654 = PLIABLE, XXX-655 = PLIABLE, XXX-656 = PLIABLE, XXX-657 = PLIABLE, XXX-658 = PLIABLE, XXX-659 = PLIABLE, XXX-660 = PLIABLE, XXX-661 = PLIABLE, XXX-662 = PLIABLE, XXX-663 = PLIABLE, XXX-664 = PLIABLE, XXX-665 = PLIABLE, XXX-666 = PLIABLE, XXX-667 = PLIABLE, XXX-668 = PLIABLE, XXX-669 = PLIABLE, XXX-670 = PLIABLE, XXX-671 = PLIABLE, XXX-672 = PLIABLE, XXX-673 = PLIABLE, XXX-674 = PLIABLE, XXX-675 = PLIABLE, XXX-676 = PLIABLE, XXX-677 = PLIABLE, XXX-678 = PLIABLE, XXX-679 = PLIABLE, XXX-680 = PLIABLE, XXX-681 = PLIABLE, XXX-682 = 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XXX-735 = PLIABLE, XXX-736 = PLIABLE, XXX-737 = PLIABLE, XXX-738 = PLIABLE, XXX-739 = PLIABLE, XXX-740 = PLIABLE, XXX-741 = PLIABLE, XXX-742 = PLIABLE, XXX-743 = PLIABLE, XXX-744 = PLIABLE, XXX-745 = PLIABLE, XXX-746 = PLIABLE, XXX-747 = PLIABLE, XXX-748 = PLIABLE, XXX-749 = PLIABLE, XXX-750 = PLIABLE, XXX-751 = PLIABLE, XXX-752 = PLIABLE, XXX-753 = PLIABLE, XXX-754 = PLIABLE, XXX-755 = PLIABLE, XXX-756 = PLIABLE, XXX-757 = PLIABLE, XXX-758 = PLIABLE, XXX-759 = PLIABLE, XXX-760 = PLIABLE, XXX-761 = PLIABLE, XXX-762 = PLIABLE, XXX-763 = PLIABLE, XXX-764 = PLIABLE, XXX-765 = PLIABLE, XXX-766 = PLIABLE, XXX-767 = PLIABLE, XXX-768 = PLIABLE, XXX-769 = PLIABLE, XXX-770 = PLIABLE, XXX-771 = PLIABLE, XXX-772 = PLIABLE, XXX-773 = PLIABLE, XXX-774 = PLIABLE, XXX-775 = PLIABLE, XXX-776 = PLIABLE, XXX-777 = PLIABLE, XXX-778 = PLIABLE, XXX-779 = PLIABLE, XXX-78																							

1/ CLEAN CRY - SUBTRACT 1 LB./80. FOR DOCKAGE-FREE T.W.

2/ 14% MOISTURE BASIS.

3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE-UNSATISFACTORY, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.

4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT.

5/ REFER TO REFERENCE PICTOGRAMS FOR NUMERICAL CURVE PATTERNS. (1 = VERY WEAK, --- 11 = VERY STRONG)

6/ X = BUCKLE, Y = PLIABLE, Z = PLIABLE-WEAK, 7 = PLIABLE-WEAK, 8 = WEAK, 9 = WEAK-PLIABLE, 10 = VERY WEAK, 11 = VERY GRAY, 12 = DULL GRAY, 13 = VERY GRAY, 14 = DULL GRAY, 15 = VERY GRAY, 16 = DULL GRAY, 17 = DULL GRAY, 18 = DULL GRAY, 19 = DULL GRAY, 20 = DULL GRAY, 21 = DULL GRAY, 22 = DULL GRAY, 23 = DULL GRAY, 24 = DULL GRAY, 25 = DULL GRAY, 26 = DULL GRAY, 27 = DULL GRAY, 28 = DULL GRAY, 29 = DULL GRAY, 30 = DULL GRAY, 31 = DULL GRAY, 32 = DULL GRAY, 33 = DULL GRAY, 34 = DULL GRAY, 35 = DULL GRAY, 36 = DULL GRAY, 37 = DULL GRAY, 38 = DULL GRAY, 39 = DULL GRAY, 40 = DULL GRAY, 41 = DULL GRAY, 42 = DULL GRAY, 43 = DULL GRAY, 44 = DULL GRAY, 45 = DULL GRAY, 46 = DULL GRAY, 47 = DULL GRAY, 48 = DULL GRAY, 49 = DULL GRAY, 50 = DULL GRAY, 51 = DULL GRAY, 52 = DULL GRAY, 53 = DULL GRAY, 54 = DULL GRAY, 55 = DULL GRAY, 56 = DULL GRAY, 57 = DULL GRAY, 58 = DULL GRAY, 59 = DULL GRAY, 60 = DULL GRAY, 61 = DULL GRAY, 62 = DULL GRAY, 63 = DULL GRAY, 64 = DULL GRAY, 65 = DULL GRAY, 66 = DULL GRAY, 67 = DULL GRAY, 68 = DULL GRAY, 69 = DULL GRAY, 70 = DULL GRAY, 71 = DULL GRAY, 72 = DULL GRAY, 73 = DULL GRAY, 74 = DULL GRAY, 75 = DULL GRAY, 76 = DULL GRAY, 77 = DULL GRAY, 78 = DULL GRAY, 79 = DULL GRAY, 80 = DULL GRAY, 81 = DULL GRAY, 82 = DULL GRAY, 83 = DULL GRAY, 84 = DULL GRAY, 85 = DULL GRAY, 86 = DULL GRAY, 87 = DULL GRAY, 88 = DULL GRAY, 89 = DULL GRAY, 90 = DULL GRAY, 91 = DULL GRAY, 92 = DULL GRAY, 93 = DULL GRAY, 94 = DULL GRAY, 95 = DULL GRAY, 96 = DULL GRAY, 97 = DULL GRAY, 98 = DULL GRAY, 99 = DULL GRAY, 100 = DULL GRAY.

7/ XXX-00 = SOGGY, XXX-01 = THICK HALL OR HATCH, XXX-02 = CLOSE, XXX-03 = CLOSE, XXX-04 = CLOSE, XXX-05 = OPEN, XXX-06 = OPEN, XXX-07 = IRREGULAR, XXX-08 = IRREGULAR, XXX-09 = OPEN, XXX-10 = IRREGULAR, XXX-11 = VERY GRAY, XXX-12 = DULL GRAY, XXX-13 = DULL GRAY, XXX-14 = DULL GRAY, XXX-15 = DULL GRAY, XXX-16 = DULL GRAY, XXX-17 = DULL GRAY, XXX-18 = DULL GRAY, XXX-19 = DULL GRAY, XXX-20 = DULL GRAY, XXX-21 = DULL GRAY, XXX-22 = DULL GRAY, XXX-23 = DULL GRAY, XXX-24 = DULL GRAY, XXX-25 = DULL GRAY, XXX-26 = DULL GRAY, XXX-27 = DULL GRAY, XXX-28 = DULL GRAY, XXX-29 = DULL GRAY, XXX-30 = DULL GRAY, XXX-31 = DULL GRAY, XXX-32 = DULL GRAY, XXX-33 = DULL GRAY, XXX-34 = DULL GRAY, XXX-35 = DULL GRAY, XXX-36 = DULL GRAY, XXX-37 = DULL GRAY, XXX-38 = DULL GRAY, XXX-39 = DULL GRAY, XXX-40 = DULL GRAY, XXX-41 = DULL GRAY, XXX-42 = DULL GRAY, XXX-43 = DULL GRAY, XXX-44 = DULL GRAY, XXX-45 = DULL GRAY, XXX-46 = DULL GRAY, XXX-47 = DULL GRAY, XXX-48 = DULL GRAY, XXX-49 = DULL GRAY, XXX-50 = DULL GRAY, XXX-51 = DULL GRAY, XXX-52 = DULL GRAY, XXX-53 = DULL GRAY, XXX-54 = DULL GRAY, XXX-55 = DULL GRAY, XXX-56 = DULL GRAY, XXX-57 = DULL GRAY, XXX-58 = DULL GRAY, XXX-59 = DULL GRAY, XXX-60 = DULL GRAY, XXX-61 = DULL GRAY, XXX-62 = DULL GRAY, XXX-63 = DULL GRAY, XXX-64 = DULL GRAY, XXX-65 = DULL GRAY, XXX-66 = DULL GRAY, XXX-67 = DULL GRAY, XXX-68 = DULL GRAY, XXX-69 = DULL GRAY, XXX-70 = DULL GRAY, XXX-71 = DULL GRAY, XXX-72 = DULL GRAY, XXX-73 = DULL GRAY, XXX-74 = DULL GRAY, XXX-75 = DULL GRAY, XXX-76 = DULL GRAY, XXX-77 = DULL GRAY, XXX-78 = DULL GRAY, XXX-79 = DULL GRAY, XXX-80 = DULL GRAY, XXX-81 = DULL GRAY, XXX-82 = DULL GRAY, XXX-83 = DULL GRAY, XXX-84 = DULL GRAY, XXX-85 = DULL GRAY, XXX-86 = DULL GRAY, XXX-87 = DULL GRAY, XXX-88 = DULL GRAY, XXX-89 = DULL GRAY, XXX-90 = DULL GRAY, XXX-91 = DULL GRAY, XXX-92 = DULL GRAY, XXX-93 = DULL GRAY, XXX-94 = DULL GRAY, XXX-95 = DULL GRAY, XXX-96 = DULL GRAY, XXX-97 = DULL GRAY, XXX-98 = DULL GRAY, XXX-99 = DULL GRAY, XXX-100 = DULL GRAY.

8/ XXX-50 = SOGGY, XXX-01 = THICK HALL OR HATCH, XXX-02 = CLOSE, XXX-03 = CLOSE, XXX-04 = CLOSE, XXX-05 = OPEN, XXX-06 = OPEN, XXX-07 = IRREGULAR, XXX-08 = IRREGULAR, XXX-09 = OPEN, XXX-10 = IRREGULAR, XXX-11 = VERY GRAY, XXX-12 = DULL GRAY, XXX-13 = DULL GRAY, XXX-14 = DULL GRAY, XXX-15 = DULL GRAY, XXX-16 = DULL GRAY, XXX-17 = DULL GRAY, XXX-18 = DULL GRAY, XXX-19 = DULL GRAY, XXX-20 = DULL GRAY, XXX-21 = DULL GRAY, XXX-22 = DULL GRAY, XXX-23 = DULL GRAY, XXX-24 = DULL GRAY, XXX-25 = DULL GRAY, XXX-26 = DULL GRAY, XXX-27 = DULL GRAY, XXX-28 = DULL GRAY, XXX-29 = DULL GRAY, XXX-30 = DULL GRAY, XXX-31 = DULL GRAY, XXX-32 = DULL GRAY, XXX-33 = DULL GRAY, XXX-34 = DULL GRAY, XXX-35 = DULL GRAY, XXX-36 = DULL GRAY, XXX-37 = DULL GRAY, XXX-38 = DULL GRAY, XXX-39 = DULL GRAY, XXX-40 = DULL GRAY, XXX-41 = DULL GRAY, XXX-42 = DULL GRAY, XXX-43 = DULL GRAY, XXX-44 = DULL GRAY, XXX-45 = DULL GRAY, XXX-46 = DULL GRAY, XXX-47 = DULL GRAY, XXX-48 = DULL GRAY, XXX-49 = DULL GRAY, XXX-50 = DULL GRAY, XXX-51 = DULL GRAY, XXX-52 = DULL GRAY, XXX-53 = DULL GRAY, XXX-54 = DULL GRAY, XXX-55 = DULL GRAY, XXX-56 = DULL GRAY, XXX-57 = DULL GRAY, XXX-58 = DULL GRAY, XXX-59 = DULL GRAY, XXX-60 = DULL GRAY, XXX-61 = DULL GRAY, XXX-62 = DULL GRAY, XXX-63 = DULL GRAY, XXX-64 = DULL GRAY, XXX-65 = DULL GRAY, XXX-66 = DULL GRAY, XXX-67 = DULL GRAY, XXX-68 = DULL GRAY, XXX-69 = DULL GRAY, XXX-70 = DULL GRAY, XXX-71 = DULL GRAY, XXX-72 = DULL GRAY, XXX-73 = DULL GRAY, XXX-74 = DULL GRAY, XXX-75 = DULL GRAY, XXX-76 = DULL GRAY, XXX-77 = DULL GRAY, XXX-78 = DULL GRAY, XXX-79 = DULL GRAY, XXX-80 = DULL GRAY, XXX-81 = DULL GRAY, XXX-82 = DULL GRAY, XXX-83 = DULL GRAY, XXX-84 = DULL GRAY, XXX-85 = DULL GRAY, XXX-86 = DULL GRAY, XXX-87 = DULL GRAY, XXX-88 = DULL GRAY, XXX-89 = DULL GRAY, XXX-90 = DULL GRAY, XXX-91 = DULL GRAY, XXX-92 = DULL GRAY, XXX-93 = DULL GRAY, XXX-94 = DULL GRAY, XXX-95 = DULL GRAY, XXX-96 = DULL GRAY, XXX-97 = DULL GRAY, XXX-98 = DULL GRAY, XXX-99 = DULL GRAY, XXX-100 = DULL GRAY.

9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.

TABLE 22

QUALITY DATA ON SAWFLY NURSERY SAMPLES

1971 CROP

VARIETY OR SEL. NO.	T-W. #/8U.	1000 KWT.	REBEL SIZE LC HEO SM	WHT. MIN.	HT. PRO.	KERN. CHAR.	FLR. EXT.	FLR. MIN-J.	FLR. PRO.	MIG. CHAR.	MIX. ABS.	MIX. PAT.	BAKE ARS.	MIX. TIME	OCUGH CHAR.	GRUMB COLOR	CRUMB GRAIN	LCAF VOL.	BAKE EVAL.	GEN. EVAL.	MAJOR DEFICIENCY	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
REPLICATE I - MINOT, NORTH OKOTA																						
CHINOOK	62.0	34.6	42	53	5	1.44	14.2	2	61.1	0.49	13.8	2	4	63.5	3	3	63.5	2.50	3	98.0	3	EX
CHRIS	61.0	29.8	40	56	4	1.45	15.2	3	63.2	0.48	15.0	1	2	64.3	2	4	64.3	2.25	4	100.0	4	KW
FORTUNA	61.0	31.3	35	40	5	1.36	14.9	4	65.7	0.46	13.2	1	2	64.2	3	4	64.2	2.25	4	100.0	4	KW
RESOLVE	59.5	29.2	23	69	8	1.43	14.0	4	65.6	0.46	13.2	1	3	61.3	4	4	61.3	3.00	4	101.0	4	8A
THATCHER	61.0	34.6	42	53	5	1.44	14.2	2	61.1	0.49	13.8	2	4	63.5	3	3	63.5	2.50	3	98.0	3	EX
MT 7020	61.0	31.1	30	66	4	1.26	12.4	8	63.9	0.44	11.8	1	2	62.5	4	4	62.5	3.50	5	103.0	5	1
MT 7025	60.0	30.9	34	62	4	1.33	13.2	6	61.7	0.42	12.7	2	6	62.5	4	4	62.5	3.75	4	99.0	4	2
MT 7026	60.0	30.5	34	61	4	1.42	14.5	4	63.8	0.47	14.1	1	2	62.3	2	4	62.3	2.50	3	99.0	3	1
S 6866	59.5	34.4	48	46	6	1.36	14.8	3	65.1	0.42	14.6	1	1	66.0	4	4	66.0	2.75	3	95.2	3	8A
S 6662	60.5	38.3	55	42	3	1.43	14.3	2	62.9	0.45	14.2	2	2	65.7	4	4	65.7	2.75	3	96.2	3	8A
S 6677	62.0	38.8	50	46	4	1.38	14.4	2	64.8	0.44	14.1	1	2	66.0	4	4	66.0	3.00	3	98.2	3	8A
S 6765	60.5	38.0	57	39	4	1.38	14.2	2	64.8	0.44	14.1	1	2	66.0	4	4	66.0	3.00	3	98.2	3	8A
S 6851	61.5	41.3	68	28	4	1.47	16.0	2	60.8	0.46	15.4	2	4	64.7	3	4	64.7	3.00	3	100.0	3	EX
S 6855	60.5	41.7	65	32	3	1.34	14.2	2	62.7	0.46	14.1	1	3	65.7	4	4	65.7	3.25	4	101.0	4	8A
O1-484	59.5	33.9	52	45	3	1.48	16.0	3	62.4	0.45	15.8	1	2	67.6	4	4	67.6	3.00	3	96.0	3	8A
O68-159	61.0	33.8	31	64	5	1.44	15.0	3	61.0	0.44	14.4	2	3	65.3	3	4	65.3	2.75	4	101.7	4	8A
7530-411	60.0	36.4	49	46	5	1.36	15.2	3	63.6	0.46	14.6	2	4	63.5	3	4	63.5	2.50	4	102.0	4	8A
7823-112	61.0	36.6	51	47	2	1.46	14.4	2	60.0	0.49	14.1	2	6	66.0	4	4	66.0	3.75	3	102.6	3	8A
8068-40	61.0	34.0	36	58	6	1.38	14.4	3	61.9	0.41	14.1	2	3	65.3	4	4	65.3	2.75	3	103.9	3	8A
REPLICATE II - MINOT, NORTH OKOTA																						
CHINOOK	60.5	37.5	48	47	5	1.50	15.1	3	60.7	0.46	14.5	2	4	64.7	2	4	64.7	2.25	4	100.0	4	8A
CHRIS	62.0	32.1	47	51	2	1.30	14.8	2	61.6	0.43	14.5	1	2	67.0	4	4	67.0	2.75	4	102.0	4	8A
FORTUNA	60.0	43.3	40	55	5	1.38	14.5	3	63.0	0.43	13.3	1	2	65.0	3	4	65.0	2.75	5	101.0	5	8A
RESOLVE	62.0	32.7	40	55	5	1.39	13.9	4	62.4	0.44	13.6	1	2	63.5	3	4	63.5	2.75	4	101.7	4	8A
THATCHER	60.0	31.0	28	64	8	1.32	14.2	4	62.6	0.46	11.6	1	5	64.2	3	4	64.2	2.50	4	103.0	4	8A
MT 7020	60.0	30.1	15	78	7	1.36	12.3	8	61.1	0.44	11.9	1	4	61.9	3	4	61.9	3.75	3	100.7	3	8A
MT 7025	57.5	29.0	17	75	8	1.32	12.8	8	57.9	0.48	12.4	3	8	61.0	2	4	61.0	3.00	3	103.4	3	8A
MT 7026	59.0	29.8	27	68	5	1.38	14.1	4	61.6	0.48	13.4	2	4	61.9	2	4	61.9	2.50	4	100.0	4	8A
S 683	62.0	40.7	15	82	3	1.33	14.1	3	61.9	0.45	13.8	1	3	64.2	4	4	64.2	3.25	4	101.0	4	8A
S 686	61.5	42.4	68	30	2	1.36	14.3	2	63.3	0.39	14.1	1	1	63.5	4	4	63.5	2.75	3	101.6	3	8A
S 6662	62.0	42.0	28	70	2	1.44	14.4	3	64.3	0.42	13.8	1	1	64.4	3	4	64.4	2.75	4	101.0	4	8A
S 6677	61.5	46.7	54	42	4	1.34	13.7	4	63.2	0.46	12.9	1	3	63.2	3	4	63.2	3.00	4	100.6	4	8A
S 6765	60.0	39.1	50	45	5	1.34	13.1	6	61.8	0.53	12.9	1	8	62.5	3	4	62.5	3.25	5	100.7	5	8A
S 6851	59.0	42.7	67	30	3	1.42	14.9	3	60.4	0.52	14.7	2	8	64.4	6	4	64.4	2.75	5	101.0	5	8A
S 6851	61.5	40.2	67	31	2	1.41	15.4	2	61.3	0.46	14.9	1	3	62.8	3	4	62.8	3.00	4	100.7	4	8A
S 6855	61.5	39.5	61	33	6	1.28	13.7	4	59.0	0.49	13.5	2	8	61.3	2	4	61.3	3.25	6	101.0	6	8A
O1-484	60.0	33.2	48	48	4	1.50	16.0	3	62.6	0.47	15.8	1	3	66.0	3	4	66.0	2.25	3	100.0	3	8A
O68-159	60.5	32.3	28	66	6	1.50	14.6	4	61.1	0.45	14.2	1	3	63.8	3	4	63.8	2.50	5	102.7	5	8A
7530-411	61.0	36.9	58	42	2	1.38	14.6	2	61.3	0.47	14.1	1	3	61.6	2	4	61.6	2.25	5	102.0	5	8A
7823-112	61.0	36.5	54	44	3	1.38	13.3	3	59.9	0.51	13.2	2	8	64.2	4	4	64.2	3.50	6	100.0	6	8A
8068-40	60.0	33.0	31	62	7	1.32	13.4	6	63.0	0.41	12.8	1	1	63.2	3	4	63.2	3.50	5	101.0	5	8A
1/ CLEAN ORY - SUBTRACT 1 LB./8U. FOR DOCKAGE-FREE T-W. 2/ 14% MOISTURE BASIS. 3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY. 4/ REFERENCE CURVE - NORMAL, 5 = GRITTY, 6 = VERY SOFT. 5/ REFERENCE CURVE - NORMAL, 7 = SUFFICIENTLY CURVED, 8 = SUFFICIENTLY CURVED, 9 = SUFFICIENTLY CURVED, 10 = SUFFICIENTLY CURVED, 11 = VERY STRONG. 6/ REFERENCE CURVE - NORMAL, 12 = SUFFICIENTLY CURVED, 13 = SUFFICIENTLY CURVED, 14 = SUFFICIENTLY CURVED, 15 = SUFFICIENTLY CURVED, 16 = SUFFICIENTLY CURVED, 17 = SUFFICIENTLY CURVED, 18 = SUFFICIENTLY CURVED, 19 = SUFFICIENTLY CURVED, 20 = SUFFICIENTLY CURVED, 21 = SUFFICIENTLY CURVED, 22 = SUFFICIENTLY CURVED. 7/ PLATABLE-WEAK, 8 = WEAK-PLATABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY OEO, 30 = OEO. 8/ XXX-00 = SOGGY, XXX-01 = THICK WALL OR HARSH, XXX-02 = CRACK, XXX-03 = CRACK, XXX-04 = CRACK, XXX-05 = CRACK, XXX-06 = CRACK, XXX-07 = CRACK, XXX-08 = CRACK, XXX-09 = CRACK, XXX-10 = CRACK, XXX-11 = CRACK, XXX-12 = CRACK, XXX-13 = CRACK, XXX-14 = CRACK, XXX-15 = CRACK, XXX-16 = CRACK, XXX-17 = CRACK, XXX-18 = CRACK, XXX-19 = CRACK, XXX-20 = CRACK, XXX-21 = CRACK, XXX-22 = CRACK. 9/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.																						

1/ CLEAN ORY - SUBTRACT 1 LB./8U. FOR COCKAGE-FREE T.W.

2/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = QUESTIONABLE-QUESTIONABLE, 4 = QUESTIONABLE-UNSATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-UNSATISFACTORY, 8 = UNSATISFACTORY.

3/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY SOFT, 7 = VERY WEAK, 8 = WEAK, 9 = PLIABLE-WEAK, 10 = WEAK, 11 = VERY STRONG

4/ REFER TO REFERENCE MICROGRAMS FOR NUMERICAL CURVE PATTERN. 11 = VERY WEAK, 12 = WEAK, 13 = PLIABLE-WEAK, 14 = WEAK, 15 = PLIABLE-WEAK, 16 = WEAK, 17 = PLIABLE-WEAK, 18 = WEAK, 19 = WEAK, 20 = WEAK, 21 = WEAK, 22 = WEAK, 23 = WEAK, 24 = WEAK, 25 = WEAK, 26 = WEAK, 27 = WEAK, 28 = WEAK, 29 = WEAK, 30 = WEAK, 31 = WEAK, 32 = WEAK, 33 = WEAK, 34 = WEAK, 35 = WEAK, 36 = WEAK, 37 = WEAK, 38 = WEAK, 39 = WEAK, 40 = WEAK, 41 = WEAK, 42 = WEAK, 43 = WEAK, 44 = WEAK, 45 = WEAK, 46 = WEAK, 47 = WEAK, 48 = WEAK, 49 = WEAK, 50 = WEAK, 51 = WEAK, 52 = WEAK, 53 = WEAK, 54 = WEAK, 55 = WEAK, 56 = WEAK, 57 = WEAK, 58 = WEAK, 59 = WEAK, 60 = WEAK, 61 = WEAK, 62 = WEAK, 63 = WEAK, 64 = WEAK, 65 = WEAK, 66 = WEAK, 67 = WEAK, 68 = WEAK, 69 = WEAK, 70 = WEAK, 71 = WEAK, 72 = WEAK, 73 = WEAK, 74 = WEAK, 75 = WEAK, 76 = WEAK, 77 = WEAK, 78 = WEAK, 79 = WEAK, 80 = WEAK, 81 = WEAK, 82 = WEAK, 83 = WEAK, 84 = WEAK, 85 = WEAK, 86 = WEAK, 87 = WEAK, 88 = WEAK, 89 = WEAK, 90 = WEAK, 91 = WEAK, 92 = WEAK, 93 = WEAK, 94 = WEAK, 95 = WEAK, 96 = WEAK, 97 = WEAK, 98 = WEAK, 99 = WEAK, 100 = WEAK

5/ 1 = 8UCKY, 2 = VERY ELASTIC, 3 = ELASTIC, 4 = ELASTIC-PLIABLE, 5 = PLIABLE-ELASTIC, 6 = PLIABLE, 7 = PLIABLE-WEAK, 8 = WEAK-PLIABLE, 9 = WEAK, 10 = VERY WEAK, 20 = SLIGHTLY DEAO, 30 = DEAO.

6/ XXX-9 = BRIGHT WHITE, XXX-8 = WHITE, XXX-7 = SLIGHTLY CREAMY, XXX-6 = BRIGHT CREAMY, XXX-5 = CREAMY, XXX-4 = VERY CREAMY, XXX-3 = GRAY, XXX-2 = DULL GRAY, XXX-1 = VERY GRAY.

7/ XXX-00 = SOGGY, XXX-01 = THICK WALL OR HARSH, XXX-03 = CLOSE, XXX-05 = OPEN, SLIGHTLY IRREGULAR, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR, XXX-09 = OPEN, XXX-10 = SLIGHTLY OPEN, IRREGULAR, XXX-50 = SLIGHTLY IRREGULAR, XXX-70 = SLIGHTLY OPEN, XXX-90 = GOCO PROMISE.

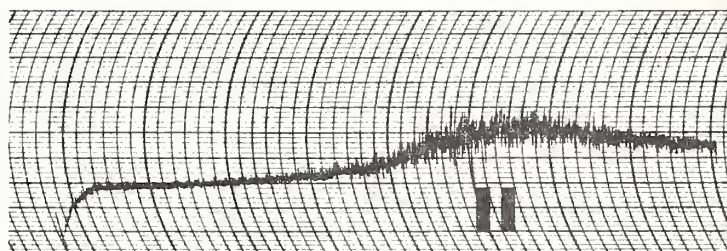
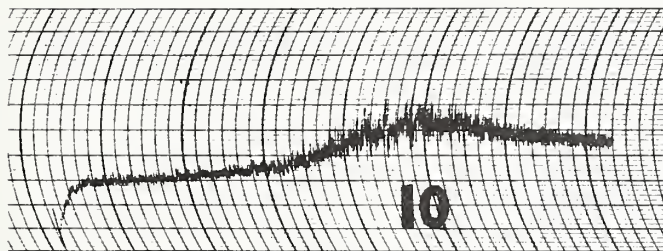
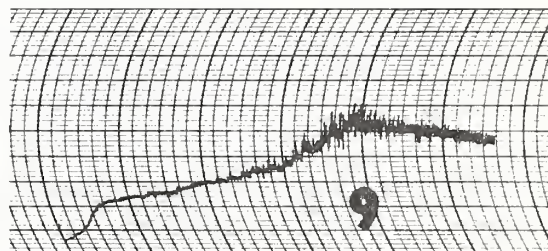
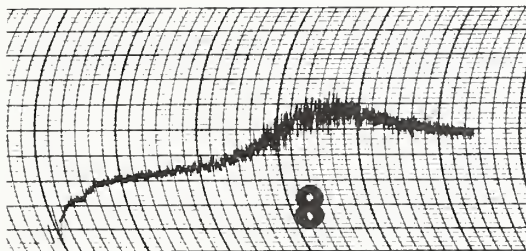
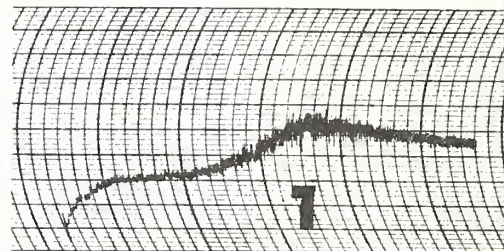
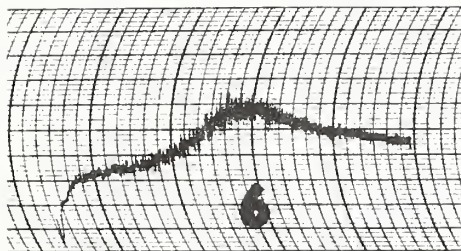
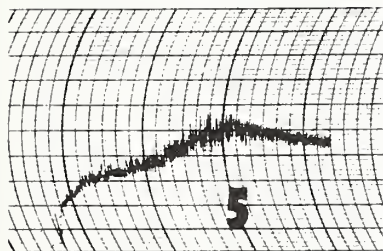
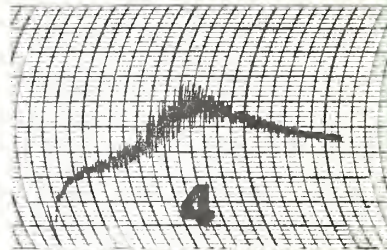
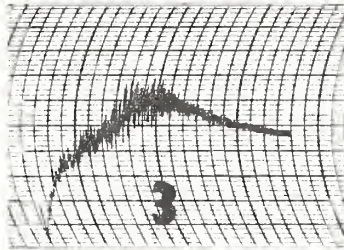
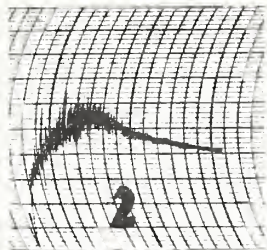
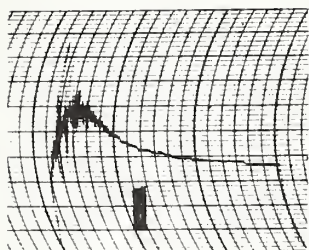
8/ 1 = NO PROMISE, 2 = LITTLE PROMISE, 3 = SOME PROMISE, 4 = GOCO PROMISE.

QUALITY DATA ON SAWFLY NURSERY SAMPLES

VARIETY OR	T.W.	1000	KERNEL SIZE		WNT.	MHT.	PROT.	KERN.	FLR.	MIN.A	FLR.	MLG.	MLG.	MIX.	MIX.	BAKE	ABS.	MIX.	CHAR.	COLO.	CUM8	CRUM8	LOAF VOL.	BAKE	GEN.	MAJOR DEFICIENCY
NO.	#/BU.	G.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	CC.	CC.	3	3	
AVERAGE OF QUALITY DATA																										
CHINOOK	60-8	31.3	25	69	6	1-55	15-3	2	61-5	0-50	14-9	2	3	63-7	3	63-7	2-94	4	99-0	92-98	178	2	4			
CHRIS	60-8	27-3	21	73	6	1-50	15-6	3	63-1	0-49	15-4	1	2	64-9	4	64-9	3-04	4	100-8	91-38	183	2	4		KW	
FORTUNA	60-7	37-4	38	58	4	1-49	14-6	2	64-1	0-48	14-2	1	3	63-2	4	63-2	3-25	4	100-3	90-98	181	2	4		KW	LG
RESCUE	60-2	27-2	16	77	7	1-59	14-7	3	62-7	0-50	14-3	1	3	62-2	4	62-2	3-84	4	101-0	90-78	189	4	3		KW	LG
THATCHER	60-0	27-8	-17	76	4	1-55	14-8	4	63-4	0-52	14-3	1	3	62-1	3	62-1	3-09	4	101-8	90-38	176	4	3		KW	LG
WT 7020	58-1	25-4	10	76	14	1-55	13-7	8	61-6	0-52	13-3	1	4	62-3	4	62-3	4-39	4	101-9	89-58	172	4	1		TW	KW
WT 7025	57-5	25-3	13	77	10	1-50	14-4	4	62-9	0-51	14-0	2	8	62-5	4	62-5	4-25	5	100-1	90-58	184	6	1		TW	KW
WT 7026	58-6	26-5	18	75	7	1-53	15-3	3	62-1	0-51	14-9	1	3	62-0	3	62-0	2-94	5	92-6	90-78	177	7	2		TW	KW
S 683	60-1	31-3	1C	84	6	1-53	15-1	4	63-0	0-52	14-9	1	4	62-7	5	62-7	4-00	4	97-0	88-48	184	2	3		M65	
S 686	60-4	36-3	36	60	4	1-48	15-2	2	63-9	0-45	14-9	1	1	63-7	4	63-7	3-09	4	98-7	89-18	195	2	4			LG
S 6662	61-1	36-0	34	64	2	1-52	15-1	2	63-5	0-46	14-7	1	2	63-7	4	63-7	3-14	4	99-4	88-98	187	2	4			
S 6677	61-4	34-6	33	64	3	1-48	15-0	2	63-5	0-47	14-6	1	2	63-8	3	63-8	3-00	5	99-5	91-38	182	2	4			
S 6763	60-1	34-6	34	62	4	1-51	14-6	2	60-8	0-52	14-2	1	2	63-0	3	63-0	3-00	5	100-0	91-78	179	4	2		M65	00
S 6844	61-4	35-2	34	64	3	1-50	15-1	2	63-4	0-48	14-8	1	3	61-9	4	61-9	3-64	4	99-9	91-58	183	4	3		8A	
S 6851	61-4	35-2	43	54	3	1-50	15-2	2	62-0	0-48	14-8	1	3	61-9	4	61-9	3-64	4	99-9	91-58	183	4	3		8A	
S 6855	60-0	34-8	39	57	4	1-50	14-9	2	60-5	0-52	14-8	2	5	62-4	3	62-4	3-29	5	101-3	90-58	177	6	1		M65	8A
11-484	60-0	29-7	33	63	4	1-52	16-2	2	62-7	0-51	16-0	1	4	65-4	4	65-4	3-04	4	99-6	90-98	181	2	4		LG	
168-159	60-8	28-8	17	77	6	1-58	15-2	3	61-2	0-48	14-9	2	3	64-5	4	64-5	3-29	4	101-4	90-38	184	2	4		LG	
30-411	60-9	31-9	35	61	3	1-49	15-3	2	62-7	0-49	14-8	1	2	62-6	4	62-6	3-29	4	101-1	90-38	182	2	4		TW	WM
7823-112	59-1	30-2	24	70	6	1-67	15-3	3	58-8	0-55	15-1	2	8	65-7	4	65-7	3-79	5	99-0	88-78	181	4	1			
8068-40	60-7	29-0	16	78	6	1-47	14-6	3	60-7	0-45	14-2	2	3	64-3	4	64-3	3-44	4	102-0	86-58	182	2	4		LG	
1/ CLEAN DRY - SUBTRACT 1 LB./BU. FOR DOCKAGE-FREE T.W.																										
2/ 1 1/2% MOISTURE BASIS.																										
3/ 1 = VERY SATISFACTORY, 2 = SATISFACTORY, 3 = SATISFACTORY-QUESTIONABLE, 4 = QUESTIONABLE-SATISFACTORY, 5 = QUESTIONABLE, 6 = QUESTIONABLE-UNSATISFACTORY, 7 = UNSATISFACTORY-QUESTIONABLE, 8 = UNSATISFACTORY.																										
4/ 1 = NORMAL, 2 = NORMAL-SOFT, 3 = SOFT-NORMAL, 4 = SOFT, 5 = GRITTY, 6 = VERY GRITTY.																										
5/ REFER TO REFERENCE MICROGRAMS FOR NUMERICAL CURVE PATTERN. (1 = VERY WEAK --- 11 = VERY STRONG)																										
6/ XXX-00 = SUGGY, XXX-01 = THICK WALL OR HARSH, XXX-02 = CLOSE, XXX-03 = OPEN, IRREGULAR, XXX-04 = OPEN, SLIGHTLY IRREGULAR, XXX-05 = OPEN, IRREGULAR, XXX-06 = OPEN, SLIGHTLY IRREGULAR, XXX-07 = IRREGULAR, XXX-08 = OPEN, SLIGHTLY IRREGULAR, XXX-09 = OPEN, XXX-10 = SLIGHTLY OPEN, IRREGULAR, XXX-11 = SLIGHTLY OPEN, IRREGULAR, XXX-12 = SLIGHTLY OPEN, IRREGULAR, XXX-13 = SLIGHTLY OPEN, IRREGULAR, XXX-14 = SLIGHTLY OPEN, IRREGULAR, XXX-15 = SLIGHTLY OPEN, IRREGULAR, XXX-16 = SLIGHTLY OPEN, IRREGULAR, XXX-17 = SLIGHTLY OPEN, IRREGULAR, XXX-18 = SLIGHTLY OPEN, IRREGULAR, XXX-19 = SLIGHTLY OPEN, IRREGULAR, XXX-20 = SLIGHTLY OPEN, IRREGULAR, XXX-21 = SLIGHTLY OPEN, IRREGULAR, XXX-22 = SLIGHTLY OPEN, IRREGULAR, XXX-23 = SLIGHTLY OPEN, IRREGULAR, XXX-24 = SLIGHTLY OPEN, IRREGULAR, XXX-25 = SLIGHTLY OPEN, IRREGULAR, XXX-26 = SLIGHTLY OPEN, IRREGULAR, XXX-27 = SLIGHTLY OPEN, IRREGULAR, XXX-28 = SLIGHTLY OPEN, IRREGULAR, XXX-29 = SLIGHTLY OPEN, IRREGULAR, XXX-30 = SLIGHTLY OPEN, IRREGULAR, XXX-31 = SLIGHTLY OPEN, IRREGULAR, XXX-32 = SLIGHTLY OPEN, IRREGULAR, XXX-33 = SLIGHTLY OPEN, IRREGULAR, XXX-34 = SLIGHTLY OPEN, IRREGULAR, XXX-35 = SLIGHTLY OPEN, IRREGULAR, XXX-36 = SLIGHTLY OPEN, IRREGULAR, XXX-37 = SLIGHTLY OPEN, IRREGULAR, XXX-38 = SLIGHTLY OPEN, IRREGULAR, XXX-39 = SLIGHTLY OPEN, IRREGULAR, XXX-40 = SLIGHTLY OPEN, IRREGULAR, XXX-41 = SLIGHTLY OPEN, IRREGULAR, XXX-42 = SLIGHTLY OPEN, IRREGULAR, XXX-43 = SLIGHTLY OPEN, IRREGULAR, XXX-44 = SLIGHTLY OPEN, IRREGULAR, XXX-45 = SLIGHTLY OPEN, IRREGULAR, XXX-46 = SLIGHTLY OPEN, IRREGULAR, XXX-47 = SLIGHTLY OPEN, IRREGULAR, XXX-48 = SLIGHTLY OPEN, IRREGULAR, XXX-49 = SLIGHTLY OPEN, IRREGULAR, XXX-50 = SLIGHTLY OPEN, IRREGULAR, XXX-51 = SLIGHTLY OPEN, IRREGULAR, XXX-52 = SLIGHTLY OPEN, IRREGULAR, XXX-53 = SLIGHTLY OPEN, IRREGULAR, XXX-54 = SLIGHTLY OPEN, IRREGULAR, XXX-55 = SLIGHTLY OPEN, IRREGULAR, XXX-56 = SLIGHTLY OPEN, IRREGULAR, XXX-57 = SLIGHTLY OPEN, IRREGULAR, XXX-58 = SLIGHTLY OPEN, IRREGULAR, XXX-59 = SLIGHTLY OPEN, IRREGULAR, XXX-60 = SLIGHTLY OPEN, IRREGULAR, XXX-61 = SLIGHTLY OPEN, IRREGULAR, XXX-62 = SLIGHTLY OPEN, IRREGULAR, XXX-63 = SLIGHTLY OPEN, IRREGULAR, XXX-64 = SLIGHTLY OPEN, IRREGULAR, XXX-65 = SLIGHTLY OPEN, IRREGULAR, XXX-66 = SLIGHTLY OPEN, IRREGULAR, XXX-67 = SLIGHTLY OPEN, IRREGULAR, XXX-68 = SLIGHTLY OPEN, IRREGULAR, XXX-69 = SLIGHTLY OPEN, IRREGULAR, XXX-70 = SLIGHTLY OPEN, IRREGULAR, XXX-71 = SLIGHTLY OPEN, IRREGULAR, XXX-72 = SLIGHTLY OPEN, IRREGULAR, XXX-73 = SLIGHTLY OPEN, IRREGULAR, XXX-74 = SLIGHTLY OPEN, IRREGULAR, XXX-75 = SLIGHTLY OPEN, IRREGULAR, XXX-76 = SLIGHTLY OPEN, IRREGULAR, XXX-77 = SLIGHTLY OPEN, IRREGULAR, XXX-78 = SLIGHTLY OPEN, IRREGULAR, XXX-79 = SLIGHTLY OPEN, IRREGULAR, XXX-80 = SLIGHTLY OPEN, IRREGULAR, XXX-81 = SLIGHTLY OPEN, IRREGULAR, XXX-82 = SLIGHTLY OPEN, IRREGULAR, XXX-83 = SLIGHTLY OPEN, IRREGULAR, XXX-84 = SLIGHTLY OPEN, IRREGULAR, XXX-85 = SLIGHTLY OPEN, IRREGULAR, XXX-86 = SLIGHTLY OPEN, IRREGULAR, XXX-87 = SLIGHTLY OPEN, IRREGULAR, XXX-88 = SLIGHTLY OPEN, IRREGULAR, XXX-89 = SLIGHTLY OPEN, IRREGULAR, XXX-90 = SLIGHTLY OPEN, IRREGULAR, XXX-91 = SLIGHTLY OPEN, IRREGULAR, XXX-92 = SLIGHTLY OPEN, IRREGULAR, XXX-93 = SLIGHTLY OPEN, IRREGULAR, XXX-94 = SLIGHTLY OPEN, IRREGULAR, XXX-95 = SLIGHTLY OPEN, IRREGULAR, XXX-96 = SLIGHTLY OPEN, IRREGULAR, XXX-97 = SLIGHTLY OPEN, IRREGULAR, XXX-98 = SLIGHTLY OPEN, IRREGULAR, XXX-99 = SLIGHTLY OPEN, IRREGULAR, XXX-100 = SLIGHTLY OPEN, IRREGULAR.																										
1 = NO PROMISE, 2 = NO PROMISE, 3 = SOME PROMISE, 4 = GOOD PROMISE.																										

REFERENCE MIXOGRAMS

HARD RED SPRING WHEAT



U.S.D.A. SPRING WHEAT QUALITY LABORATORY

FARGO, NORTH DAKOTA









U.S. NAVY



WARY
PURE



U.S. NATIONAL



LIBRARY
MS



NATIONAL



2
LIBRARY



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TIONA







